THE

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MINUTES OF THE SIXTEENTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, 1868.

The Sixteenth Annual Meeting of the American Pharmaceutical Association met in the City of Philadelphia, at the new Hall of the Philadelphia College of Pharmacy, on Tuesday, September the 8th. First Vice President, Robert J. Brown, of Leavenworth, Kansas, in the Chair; Prof. John M. Maisch, Secretary.

On taking the Chair, Mr. Brown informed the meeting that the President, Mr. John Milhau, of New York, was unable to attend this meeting in consequence of impaired health.

The Chairman appointed as a committee to examine credentials, Messrs. Stearns, of Detroit, Parrish, of Philadelphia, and Moore of Baltimore. After a short recess, during which members present registered their names, this Committee reported the following gentlemen duly accredited as delegates to this meeting:—

From the Massachusetts College of Pharmacy.—Ashel Boyden, John Buck, George F. H. Markoe, Charles A. Tufts, Henry W. Lincoln.

From the College of Pharmacy of New York.—George C. Close, Ferd. F. Mayer, William Wright, Jr., Isaac Coddington, F. V. Heydenreich.

From the Maryland College of Pharmacy.—J. Faris Moore, E. Walton Russell, Charles Dohme, William Elliott and J. F. Hancock.

From the Philadelphia College of Pharmacy.—Prof. Robert Bridges, Dr. W. H. Pile, William B. Webb, Thomas S. Wiegand and Caleb H. Needles.

From the Chicago College of Pharmacy.—Robert J. Brown, Louis Strehl, Dr. F. Mahla, Henry W. Fuller, and Albert E. Ebert.

Alumni Association of the Philadelphia College of Pharmacy.—David Preston, Charles W. Riley, Howard England, Henry C. Blair, and H. T. Peck.

From the Montreal Chemists' Association.—Nathan Mercer and Dr. J. Baker Edwards.

No delegations had been accredited from the Pharmaceutical Associations and Colleges of Maine, District of Columbia, Cincinnati and St. Louis.

Mr. Wiegand, Chairman of the Executive Committee, now proposed the names of the following gentlemen as candidates for membership in the Association, they having complied with the terms of the Constitution:

Aurick S. Brackett, Knoxville, Tenn.
George G. Percival, Phila.
Clemmons Parrish, Phila.
John T. Buck, Jackson, Miss.
David L. Smith, Virginia, Nevada.
A. B. Clark, Jr., Galesburg, Ill.
Andreas Valdemar Bugge, St. Joseph, Missouri.
Graham Wilder, Louisville, Ky.
N. C. Pettis, Great Barrington, Mass.
Alex. A. Green, Aurora, Nevada.
Charles A. Weidemann, Phila.
Hermann A. Vogelbach, Phila.
Allen Shryock, Phila.
John S. Erben, Phila.
James B. Cherry, Pittsburgh, Pa.
John W. Von Nieda, North Danville, Pa.
Charles W. Hancock, Phila.
William Fletcher Muchmore, Madison, N. J.
William S. Voorhees, Morristown, N. J.
Roger Keys, Phila.
William E. Van Orsdel, Phila.
Charles H. Cressler, Chambersburg, Pa.
William Taylor, Phila.
F. Kern, Louisville, Ky.
Theo. Tapken, Greenpoint, N. Y.
Pratt R. Hoagland, Boston, Mass.
J. Thornton Weaver, Phila.
James H. Richardson, Cambridgeport, Mass.
Chauncy B. Littlefield, Boston, Mass.
Ezra W. Arnold, Charlestown, Mass.
Frederick A. Tilge, Phila.
Judson R. Cheney, Boston, Mass.

A ballot being ordered, the Chair appointed Prof. Parrish and Charles A. Heinitsh as tellers, who reported the unanimous election of the candidates.

The roll of members present was then called by the Secretary, numbering 131.

The Reports of Committees being called for, the following were presented and laid upon the table for future action:

The Report of the Executive Committee.
" " of the Permanent Secretary.
" " on the Progress of Pharmacy.
" " on the Drug Market.
" " of the Pharmacopœia Committee.
" " on the Legislation regulating the practice of Pharmacy.

The report of the Committee on Queries and the Treasurer's Report were brought up later in the sessions.

The report of the Executive Committee was now read by Mr. Wiegand, and the supplementary report by the permanent Secretary, both of which were referred for publication.

From the Executive Committee we learn that the 15th volume of proceedings of this Association was issued about the middle of December, which, though earlier than usual, would have been anticipated several weeks, but for the illness of Mr. Slade, the phonographer, whose reports have added so much to the interest and value of our publications, and to whose skill and courtesy the Committee bear a warm testimony.

The total expense of printing and publishing the proceedings, blanks, constitutions, &c., amount to about $1500, which has all been paid by checks from the Treasurer.

The Committee also bear testimony to the great labor occasioned to the Treasurer by want of promptness in responding to his circulars, which besides greatly delays the payment of the debts of the Association.

"As the growth of our Association among those who feel an interest in the true progress of pharmaceutical science is desirable, all who are thus anxious to advance our profession to its proper position, are earnestly invited to connect themselves with us; every facility for so doing will be furnished by the Permanent Secretary or Chairman of the Executive Committee."

The report announces the death of three members of the Association during the past year, viz:

R. W. Stevens, of Great Falls, N. H., died May, 1868.

Ray B. Esterbrook, of New York, died April 27, 1868.

Henry F. Fish, formerly of Waterbury, Connecticut, and one of the oldest members, died in New York in August.

R. C. Kennedy, of Cleveland, Ohio, died August 7, 1868.

The latter was drowned in Lake Erie by the upsetting of a sail boat. He was a graduate of the N. Y. College of Pharmacy, and was highly esteemed by those among whom his lot was cast.

The Committee request that all members who have knowledge of the decease of any others of our now numerous membership, will advise the Chairman of this Committee of the time, place, and circumstances as far as proper, that they may be duly recorded. This is the more necessary as the widely spread range over which they extend makes it a difficult task to gain information in many neighborhoods.

The appointment of the Committee to nominate officers for the ensuing year being in order, the Delegations present appointed the following members to serve on that duty, viz:

Massachusetts College, . . .	Ashel Boyden.
New York College, . . .	George C. Close.
Philadelphia College, . . .	Dr. W. H. Pile.
Maryland College, . . .	Prof. J. Faris Moore.
Chicago College, ...	Louis Strehl.
Alumni Association, . . .	H. T. Peck.
Montreal Association, . . .	Nathan Mercer.
By the Chairman from the members at large not represented by delegations.	Dr. Thomas E. Jenkins, Louisville, Ky. Robert O. Sweeney, St. Paul, Minn. James T. King, M.D., Middletown, N.Y.

The voluminous report of Mr. Diehl, Chairman of the Committee on the Progress of Pharmacy, being called up, the Permanent Secretary read extracts from the document as usual, when, on motion, it was accepted and referred for publication.

This document appears to have been prepared with care, and has involved so much labor and time that the Chairman declined serving another year, which is the more to be regretted as he has been very industrious and useful in this service.

Dr. Squibb, Chairman of the Pharmacopœia Committee, read the report of this Committee, which was on motion accepted and referred for publication, viz:

Mr. President: Your Permanent Committee on the Pharmacopœia, consisting of W. Procter, Jr., A. B. Taylor, and the undersigned, ap-

pointed at the Annual Meeting of 1863, for purposes given in the minutes of the 11th Annual Meeting, (see proceedings of 1863, page 42), begs leave to report that the members have not been unmindful of the important duty with which they were intrusted, and have collected much information which may become useful at the next revision of the Pharmacopœia. As the time for the next revision approaches, a question arises in your Committee as to how to prepare and present what may have been done. All the members of this Committee are fully occupied, if not over-occupied, in the efforts which seem to become less and less productive in getting a living from their business, and have little time or labor to spare. This Association is a voluntary and an unincorporated body, and therefore not entitled to representation in the Decennial Convention of 1870. Should your Committee therefore undertake to make a preliminary revision of the Pharmacopœia, and should this be presented at the next annual meeting and be accepted by the Association, it would have to be offered as a voluntary contribution at the convention, and might to a great extent merely duplicate the labor as performed by incorporated representative bodies. Such a report would doubtless be courteously received from this Association, and would obtain its due weight both in the convention and with its committee of final revision; but whether the good accomplished would be at all commensurate with the labor involved in such a report may well be doubted. Under these circumstances your Committee would suggest that a simple critical review of the Pharmacopœia in the light of past experience, by each member of the Committee independently, each making mere points of approval or objection, as his experience and information might indicate, might be all that would be warranted or required. And unless the Association otherwise orders or directs this will be the course pursued.

On behalf of the Committee,

E. R. SQUIBB,
Chairman.

BROOKLYN, Sept. 5, 1868.

The permanent Secretary read a letter dated Toronto, Canada, Sept. 3d, from Henry J. Rose, Secretary of the Canadian Pharmaceutical Society, in which he expresses the thanks of that Society for the invitation extended by our Secretary to send delgates to this meeting.

Frederick Stearns, after a few appropriate remarks, offered the following:

"*Resolved*, That the American Pharmaceutical Association welcome heartily the presence at this meeting of the Delegation from the Montreal Chemists Association, the first one accorded to us from the Dominion of Canada."

Dr. Edward R. Squibb then introduced to the meeting both

delegates from the Montreal Association, whereupon the resolution was unanimously adopted.

Mr. Mercer and Dr. Edwards expressed their thanks appreciatively for the reception extended to them.

The time for presenting the annual address of the President having arrived, Secretary Maisch and Dr. Squibb read that document, which was accepted and referred for publication; the suggestions and propositions contained therein being referred to the Business Committee, to be brought up for action in due course. A few extracts from the report are here printed.

Gentlemen,—In retiring from the high official position with which it has been your pleasure to honor me, I regret the necessity of recalling to your indulgent consideration the same personal reasons which caused me to hesitate in accepting that mark of your kind deference. I then stated that my health was feeble, and am now obliged to admit that it would be imprudent for me to venture from home. I the more regret my absence from your sixteenth annual meeting, as it occurs in Philadelphia, which has done more than any other city in the Union to extend pharmaceutical science, and render available its practical resources. Through its well-appointed College of Pharmacy it has successfully exercised its influence upon the moral, intellectual and business character of those intended for our profession, to fit them for their important and confidential relations to the patient, their intelligent co-operation with the physician, and their advancement of our science.

. . . . . It was resolved at the last meeting to increase the annual dues to three dollars (formerly two dollars), and to charge five dollars instead of three for certificates after the present meeting, the initiation fee of three dollars remaining unchanged. Life membership, that threatened us with a decrease in revenue without any decrease in the number of Proceedings to be printed, was abolished. Nearly all the life members, in accordance with the circular sent them according to your instructions, voluntarily relinquished their right of exemption from further payment of annual dues. It argues well for the future existence of this Association, that its members should so generally have resolved to tax themselves, and to cede their right to life membership that they had either acquired or had been looking forward to. As there has been a diminution in the number of non-contributing members, besides an increase of about five per cent. on the roll of active members, what with the increase of dues it may be permitted to suppose that we shall no longer be obliged to forestall our receipts, as of late years. There is, however, some dilatoriness in paying the dues, for which there can be but little excuse. . . . . .

The Executive Committee have been busy, as usual, and more than

usually successful in the early production of a very creditable volume of the annual Proceedings; creditable alike to them, the contributors, and the Association. The Committee mention the want of a system to furnish them with the names of deceased members, which it is their sad duty to report. I would suggest that the members of each State send the details of death occurring within their limits to one of their number, selected by them, to be communicated to the Executive Committee. This subdivision of States is one that it is proposed to make available in our attempts to obtain State legislation and appropriations for Colleges. I would suggest that a copy of our Proceedings be sent to the State library at the Capitol of each State, for the use of the Legislature.

In accordance with a resolution passed at our last meeting, a circular was addressed by our indefatigable Permanent Secretary to the Governors of every State. In the report of the Committee you will be informed of the result of this attempt to ascertain what encouragement this Association might rely upon to begin with in its plans to establish Colleges of Pharmacy throughout the country, and also if the Legislatures would be disposed to enact laws for the practice of our profession by the exaction of a diploma of competency, as exist in [nearly] all civilized communities in Europe. . . . . .

[The address favors the obtaining of an act of incorporation by the general government, and making all foreign members honorary members, so as to remove that obstacle, and having a resident Assistant Secretary in Washington.

The idea of making the chairman of the Committee on the Progress of Pharmacy a permanent officer, like the Secretary, is brought forward, but not approved, on the ground of preventing the educating influence of a rotation in the office.

The subject of the communication from the East River Medical Association, as referred from last year, is considered too local in its character to require the action of the Association. The President believes the resolutions are opposed to the practice of Europe, and that we should not interfere with the liberty of the patient.

The address favors the appointment of a standing committee on "unofficinal formulas," to report annually, so that the many floating formulæ which have merit may be gathered and made known.]

The Committee on the Drug Market, by statistics, show the oppressive character of the tariff as applied to our business. Over half the dutiable articles consist of drugs and medicinal preparations, &c., whose total money value hardly warrants their being enumerated thereon. These facts have repeatedly been brought before the Association. I would suggest the appointment of a standing committee on the tariff, to lay the matter before the Executive, and to memorialize both houses of Congress, and that the matter be agitated continually and perseveringly until we effect a thorough change. We will have the assistance of the wholesale

trade and of the medical profession, backed by public opinion. The proposed committee must try to secure a more rigid enforcement of the law of 1848 to prevent the importation of bad and worthless drugs, being a fundamental principle of this organization, as enunciated in Section 1, Article 1st of our Constitution. I am more convinced than ever of the great utility of that law, and many facts to the support of that assertion will be brought to your notice. It is the only law that the Government has ever vouchsafed us. European nations may do without it, as they rely on stringent internal police regulations not compatible with our institutions, and England being the market of the world, has the advantage of having the first pick. It is for us a necessary protection, and it would be highly proper that the members of our Association who reside in districts where there are drug examiners, should see that the duties of the office are properly discharged, and report thereon to the tariff committee. This committee should urge that the salary be increased sufficiently to command all the qualifications required for so responsible a position. The importation of powdered drugs, at least in wholesale quantities, should be prohibited. Worthless drugs rejected by the examiner are said to have been powdered on their return to Europe, reshipped to this country, consigned to a different party to avoid suspicion, and thus the law has been evaded. . . . . .

The report of the delegation to the International Pharmaceutical Congress in Paris was published in last year's Proceedings. It was the only delegation that voted for the free practice of pharmacy, with the guarantee of a diploma and personal responsibility. Such regulations were not sufficiently stringent to meet the views of our European brethren. They considered certain regulations necessary, to which our delegation could not reconcile their ideas. There is little in common to stand on, yet it would be proper that a delegation be appointed to attend the next Congress, wherever it shall be convened. There is a growing tendency in England to adopt reasonable laws, and in Germany there exists a desire for the partial abolition of their existing protective and police regulations.

[The address favors the idea of a universal Pharmacopœia within certain limits, as a means of giving uniformity of strength throughout the civilized world to such preparations as the tinctures of aconite and nux vomica, wine of colchicum, etc., but thinks each nation would need a special code besides.]

There is also the British Pharmaceutical Conference, which has held its fifth annual meeting; and the Pharmaceutical Society of Great Britain, that is entrusted with the enforcement of the laws relating to the practice of pharmacy; with which we should continue to cultivate intimate relations, as they challenge our sympathies by the great similarity of their organization and objects with our own; and the experiences and sympathies of co-workers must always be desirable. The success they have already met with should be the subject of congratulation.

[The address favors the adoption of decimal weights, and the abolition of the regulation in the Custom-house, requiring metrical weights to be converted into avoirdupois before fixing the duties, be urged. Also that their adoption be urged at the next decennial revision of the Pharmacopœia.

The address advocates the introduction and culture of foreign drugs and articles when suited to our soil and climate, such as the olive, liquorice, lemons, and even rhubarb and opium; and recommends the dissemination of accurate information on these points as contributions to the industrial advancement of our country.]

Before closing, I would address you according to my convictions on the true plan, to use the words of our Constitution, "of improving the science and art of pharmacy, of regulating the system of apprenticeship, and of suppressing empiricism" with any degree of success,—and that is by professional instruction. It will require the whole influence of every member to further the plan proposed, or a better one. It will take a long time, and require hard work. We must commence by organizing our forces. It would be necessary to appoint "a central committee on laws and colleges," and all the members in each State should band themselves together and constitute "sub-committees" for their respective States. The general committee should publish a full collection of all the existing State laws bearing on the subject, together with comments, followed by an account of kindred laws in Great Britain, especially those lately enacted. They will issue instructions as far as necessary, and drafts of the proposed laws for the use of the sub-committees. Every member should, by explanation and by all proper arguments, endeavor to enlist the influence of every prominent citizen he can reach,—the State representatives, the ministers, the lawyers, the physicians, his customers, and the editors,—so as to bring the legislature and executive of each State over to our views, and never cease till we have obtained the requisite laws, and founded a College of Pharmacy in each State. It was by such means that we succeeded in obtaining the drug law of 1848, when the country was much less prepared for such a step than now. . . .

[The address refers to the New York College of Pharmacy, and the active part it took to procure the law of 1848; and refers to the existing law limited to New York city, passed in 1839 (and which has always been a dead letter), which forbade any person to commence business as an apothecary after 1839 unless furnished with a diploma by the College of Pharmacy, under a penalty of $50, payable to the N. Y. Dispensary.]

It is contemplated, in the scheme I have suggested, that the central committee on laws and colleges, through the State sub-committees, be the means of obtaining the signatures to the petitions that the committee on the tariff or other committees might require in memorializing Congress; and if our seven hundred members will only reach the Congress-

men individually who represent their respective districts, we will surely obtain compliance with any just and reasonable demands. We must create a uniform demand in every State for salutary laws that will protect alike the public and the pharmaceutist, and not rest till we obtain them. As each State yields in turn to these requests, the number of colleges will rapidly multiply, and the courses of study in the older ones will have to be extended if they will retain their prestige.

J. MILHAU.

New York, Sept. 7th, 1868.

Invitations were received and read from the Faculty of the University of Pennsylvania, the College of Physicians, the Academy of Fine Arts, and the Managers of the Blind Asylum.

Alfred B. Taylor, chairman of the committee of arrangements for the Association, extended an invitation to the members and their families to be present at the *conversazione*, to be held this evening at 8 o'clock.

On motion, the Association adjourned until to-morrow morning, at 10 o'clock.

Second Session.—Wednesday, Sept. 9th.

The meeting was called to order by Vice-President R. J. Brown, at 10 o'clock.

The minutes of the first session were read and approved.

On motion of Thomas S. Wiegand, the medical profession were invited to attend our sittings, by a unanimous vote.

The Treasurer, Charles A. Tufts, now read his report for the last year. The receipts, including balance on hand at the beginning of the year, amount to $2713.16; of this sum $1877 arise from contributions of members, $373 from sale of certificates, and $39.77 from sale of Proceedings.

The disbursements amount to $2463.36, of which $1508.32 was for the publication of the Proceedings.

The duties of the Treasurer have been unusually arduous the last year, owing to the immense correspondence incident to the carrying out of the resolutions of last meeting in regard to life membership and other changes in the financial relations of members, which may be best shown by stating that the item of postage alone amounts to $126.78.

On motion of Dr. Squibb, the report was accepted and referred

to a committee to audit—Prof. J. Faris Moore, Charles H. Dalrymple and John Buck.

The Committee on Nominations now presented their report, which was read. Wm. Procter, Jr., nominated as chairman of the Committee on Progress of Pharmacy, declined that service, and Dr. E. R. Squibb, also declining to continue as chairman of the Business Committee, the report was returned to the Committee for revision, which, when reconsidered, read as follows, viz:

For President,

EDWARD PARRISH, ... Philadelphia, Pa.

For Vice-Presidents,

FERRIS BRINGHURST, ... Wilmington, Del.
EDWARD S. WAYNE, ... Cincinnati, Ohio.
ALBERT E. EBERT, ... Chicago, Illinois.

For Treasurer,

CHARLES A. TUFTS, ... Dover, N. H.

Permanent Secretary,

JOHN M. MAISCH, ... Philadelphia, Pa.

Local Secretary,

[WILLIAM H. FULLER, of Chicago, was elected at last session.]

Executive Committee,

THOMAS S. WIEGAND, Chairman, Philadelphia, Pa.
P. W. BEDFORD, ... New York, N. Y.
CHARLES A. HEINITSH, . . . Lancaster, Pa.
THOMAS E. JENKINS, ... Louisville, Ky.
Prof. JOHN M. MAISCH, *Ex-officio*, . Philadelphia, Pa.

Committee on the Progress of Pharmacy,

FREDERICK HOFFMANN, Chairman, New York, N. Y.
Dr. F. MAHLA, ... Chicago, Ill.
LEWIS DOHME, ... Baltimore, Md.
G. F. H. MARKOE, ... Boston, Mass.

Committee on the Drug Market,

W. A. GELLATLY, Chairman, . . New York, N. Y.
CHARLES BULLOCK, ... Philadelphia, Pa.

HENRY W. FULLER, ... Chicago, Ill.
JOHN P. MUTH, ... Baltimore, Md.
ISAAC T. CAMPBELL, ... Boston, Mass.

Committee on Scientific Queries,

WILLIAM PROCTER, JR., Chairman, . Philadelphia, Pa.
GEORGE C. CLOSE, ... Brooklyn, N. Y.
ISRAEL J. GRAHAM, ... Philadelphia, Pa.

Business Committee,

ALFRED B. TAYLOR, ... Philadelphia, Pa.
JOHN F. HANCOCK, ... Baltimore, Md.
E. H. SARGENT, ... Chicago, Ill.

Permanent Committee on the Pharmacopœia,

EDWARD R. SQUIBB, M. D., Chairman, Brooklyn, N. Y.
WILLIAM PROCTER, JR., . . . Philadelphia, Pa.
ALFRED B. TAYLOR, ... Philadelphia, Pa.

A motion was made to accept the report of the Nominating Committee as now offered, and to deposit a single ballot for the candidates as a whole, which was unanimously adopted.

The Chair appointed F. Victor Heydenreich, of Brooklyn, and C. J. Geiger, of Canton, Ohio, as tellers, who reported the unanimous election of all the candidates.

Messrs. Stearns and Lincoln, by request, now conducted the President elect to the Chair.

President Parrish, in taking his position, made some appropriate remarks, claiming a strong desire to have a place in the hearts of his brethren.

Communications extending an invitation to the members to visit the Franklin Institute and the Mercantile Library were received, read and accepted.

The Auditing Committee reported that they had examined the Treasurer's account and found it correct. The report was accepted and the Committee discharged.

The report of the Committee on the Drug Market being called for, the Chairman, Daniel C. Robbins, of New York, read the report, omitting the valuable statistical tables which accompany

it. The report, which was listened to with great interest, and was read remarkably well, was accepted.

The attention of the meeting was called to that portion of the report referring to the Drug Examiners Law, of which the report spoke in unfavorable terms, being in favor of free trade in drugs. W. Procter, Jr., suggested that some clause should be appended to the report if published as read, expressing that the Association does not endorse these views. Several members expressed their views, when, on motion of Mr. Gellatly, that portion of the report, referring to the repeal of the Drug Law be referred to a committee of three. The Chair appointed William A. Gellatly, Daniel C. Robbins and William Procter, Jr., to this duty, to report at the next sitting.

On motion of the Business Committee, it was agreed that the opening hour of the session of Thursday morning be given to Dr. Squibb for reading papers on scientific subjects.

An invitation from the directors of the Sanitarium for the treatment of persons suffering from the effects of alcoholic stimulants was received.

On motion, it was decided that when the meeting adjourns it be till the hour of 3 o'clock, P. M.

The Committee of Arrangements gave notice that carriages would be in waiting at the Continental Hotel at 3 o'clock, to take the ladies of the visiting members of the Association on an excursion to the rural districts, and that several ladies and three gentlemen of the Committee would be in attendence.

The meeting then adjourned.

Third Session — Wednesday Afternoon.

The meeting was called to order at 3 o'clock, by President Parrish.

Dr. Squibb, acting for the Chairman of the Business Committee, absent on duty, brought forward several of the recommendations of President Milhau.

Dr. Squibb moved, in accordance with the late President's recommendation, that an act of incorporation be applied for, which, after some discussion, was decided in the negative.

A motion to appoint a committee to examine the specimens on

exhibition in the hall below was carried, and the Chair appointed Dr. Frederick Hoffman, of New York, Dr. Robert Bridges, of Philadelphia, N. H. Jennings, of Baltimore, Matthew F. Ash, of Jackson, Miss., and G. W. Sloan, of Indianapolis, Indiana, to this duty.

Dr. Squibb brought forward, as unfinished business of last year, the communication of the East River Medical Association. Prof. Moore moved to indefinitely postpone the subject, which was subsequently withdrawn. After a long discussion it was, on motion of Charles Ellis, amended by Charles L. Eberle, resolved that a committee of five be appointed to draw up resotions in answer to the communication of the East River Medical Association, expressive of the sense of this Association.

Frederick Stearns, Ferris Bringhurst, J. Faris Moore, H. W. Lincoln and J. H. Pope were appointed to this duty.

The suggestion of President Milhau, in regard to the collection of unofficinal formulæ, was brought up. Dr. Squibb moved to appoint a permanent committee of three to collect unofficinal formulæ, which was carried. The President said he would announce this committee to-morrow.

The recommendation in reference to the tariff on drugs, of the President's address, was met by a resolution from Dr. Squibb, that in the opinion of this Association the duties on drugs ought to be reduced, which was withdrawn until to-morrow.

The following report was now read by the Chairman:

The committee to whom was referred that portion of the report of the Committee on the Drug Market, relating to the law for the examination of drugs, respectfully report the following resolution:

Resolved, That in accepting the valuable and interesting report of the Committee on the Drug Market, this Association does not endorse that portion of the report referring to the inutility of the law requiring the examination of foreign drugs before entry at the Custom Houses, (a law intimately connected with the origin of this body), believing that, however imperfect the law may be, its comparative fruitlessness has mainly arisen from the inability and unfitness of the agents appointed to execute its provisions.

Signed, W. A. Gellatly,
William Procter, Jr.

On motion, the resolution was adopted without dissent.

The subject of sending delegates to the third International Congress, to be held in Vienna in 1869, being brought up, it was on motion resolved that the President and Executive Committee be empowered to appoint delegates to the conference at Vienna, should such action become necessary or advisable.

The recommendation of the late President to instruct the Pharmacopœia Committee to introduce decimal weights and measures was negatived, because this Association cannot send representatives in the Pharmacopœial Convention at Washington to advocate such a measure.

Then adjourned until 8 o'clock this evening, for the purpose of reading the answers to queries and other scientific papers.

Fourth Session.—Wednesday Evening.

President Parrish in the Chair.

In answer to query 1st, Joseph P. Remington read a paper on the quality of Hydrargyrum cum Creta as found in the market, accompanied by specimens of the samples analyzed. The microscopic results were quite interesting, red and black oxide of mercury being visibly present in old samples, and the globules were seen bright and unstained in the recent powder. The paper was referred for publication.

Query No. 2, on Hydriodic Acid of the Pharmacopœia, referred to Mr. Dunn, of Brooklyn, was also read by Mr. Remington, and was accepted and referred.

Query No. 3 was not replied to, but, by request, was continued to Isaac W. Smith.

Query No. 4, referred to Mr. Colby, of New York, was not replied to, and as its prosecution was declined, Prof. Maisch volunteered to reply to it next year.

Query No. 5, on Oil of Camphor, was not replied to by Mr. Archibald.

Query No. 6. Mr. Markoe stated, in answer, that the consumption of chicory for taraxacum in Boston amounts to about 10,000 pounds annually, whilst true taraxacum is used to the extent of only 2000 pounds.

Query No. 7, relative to Chlorinated Lime, was not replied to, and was dropped.

Query No. 8, on the Crystalline deposit in fluid-extract of Cloves, was answered by F. Llewellyn, of Louisville, in a paper read by the Secretary, which was referred for publication.

Query No. 10, on Buchu, being called for, Thomas A. Lancaster stated that his investigation was incomplete, and requested the subject to be continued another year.

Query 13, on Competition as a means of Progress in Pharmacy, accepted by Mr. Colcord, and Query 14, relative to a Universal Pharmacopœia, accepted by Mr. Doliber, were not answered, and were dropped from the list.

Owing to the absence of many who had papers to read, the Business Committee brought forward the following resolutions:

Resolved, That the Permanent Secretary be directed suitably to acknowledge the obligations of the Association to the

University of Pennsylvania, Medical Department,
Pennsylvania Academy of Fine Arts,
The College of Physicians and Surgeons,
The Pennsylvania Asylum for the Blind,
The Franklin Institute,
The Mercantile Library,
Librarian of the American Philosophical Society, and the
Directors of the Sanitarium at Media;

With the acceptance of their kind invitations, and the thanks of the Association.

Resolved, That it is the deliberate conviction of this Association that the present high tariff on the importation of drugs is detrimental to the interests of this Association, without yielding a corresponding revenue, if revenue at all; and that, therefore, the Committee on the Drug Market be instructed to embrace the subject of the present tariff in the report of that Committee to the next annual meeting, to the end that the influences of this Association may be wisely directed in this matter.

After due consideration, these resolutions were adopted.

After some general remarks of a conversational character, the meeting adjourned until 10 o'clock on Thursday morning.

Fifth Session.—Friday Morning, Sept. 10th.

President Edward Parrish called the meeting to order at 10 o'clock.

The reading of the minutes of last session was dispensed with.

Prof. Parrish, as Chairman of last year's Committee on Queries, read the report, in an unfinished condition, action on it being postponed until a later session.

Dr. Edward R. Squibb presented some indigenous drugs, and accompanied them with some remarks, which were accepted and referred.

Dr. Squibb also read an answer in reply to Query 31st, on the Contamination of Muriatic Acid with Sulphur Compounds, which was accepted and referred for publication.

Dr. Squibb also read a paper entitled "Note on Rhubarb," which he illustrated with several large and fine lots of rhubarb root, and some samples of the powder. The writer's object appeared to be to show that although good rhubarb is scarcer than formerly, yet it may be had if there is a willingness to pay the advanced price of it. He also gave an account of a transaction in which rhubarb that had been rejected by the New York Examiner of Drugs was reshipped to England, and, after being "doctored," was consigned to a different party, and passed the Examiner. It was referred for publication.

Dr. Squibb now read an extended paper on Carbolic Acid, which attracted much attention. The principal portion of the paper was directed to the uses of this important substance as an *azymotic* agent, detailing various experiments with regard to its power of destroying cryptogamic life.

This paper also was well illustrated with specimens, and was referred for publication.

The Secretary having made some inquiry in regard to the existence of a code of ethics of this Association, offered the following resolution:

Resolved, That a committee of five be appointed by the Chair to take into consideration the Code of Ethics adopted at a former annual meeting, and report thereon.

The resolution was adopted, and the President appointed Wm. Procter, Jr., of Philadelphia, H. W. Lincoln, of Boston, Dr. J. B. Edwards, of Montreal, E. H. Heinitsh, of Columbia, S. C., and C. J. Geiger, of Canton, O., to report thereupon.

The Chair announced the following committee on unofficinal

formulæ: G. F. H. Markoe, of Boston, Prof. J. F. Moore, of Baltimore, and Albert E. Ebert, of Chicago.

The Executive Committee now brought forward the following candidates for membership,—viz.:

E. M. Roche, Philadelphia, Pa.
Wm. Elliott, Baltimore, Md.
J. S. Crawford, Dayton, O.
Théo. F. Burt, Brooklyn, N. Y.
Thos. Jones, " "
Geo. H. White, Jersey City, N. J.
Wm. W. McKechnie, " "
Jos. Karch, Dayton, O.
Jas. L. Contant, Flushing, N. Y.
Jas. P. Frames, Baltimore, Md.
Henry A. Bower, Philada., Pa.
Wm. McIntyre, " "
J. H. B. Jefferson, Baltimore, Md.
Fred. J. Delker, Ashland, Schuylkill Co., Pa.
Caleb R. Keeney, Philada., Pa.
Chas. A. Osmun, New York, N. Y.
Robt. England, Philada, Pa.
Wesley Mullin, Chestnut Hill, Phila. Pa.
J. F. Daniel Lobstein, Sagharbor, N. Y.
Geo. F. Dege, New York, N. Y.
Wm. H. Voorhees, Plainfield, N. J.
Henry B. Lippincott, Philada., Pa.
Bennett L. Smedley, " "
John J. Lambe, Hartford, Conn.
A. Breunert, Kansas City, Mo.
R. Parham, Leavenworth, Kansas.
Henry C. Morse, Elmira, N. Y.
J. Muse Worthington, Baltimore, Md.
Jacob Heisler, Vincenttown, N. J.
Andrew J. Ditman, New York, N. Y.
Chas. B. Smith, Newark, N. J.
Adolph W. Miller, Philada., Pa.
Henry T. Peck, " "
Roland Seeger, " "
M. Primo, Mobile, Ala.

J. L. Lemberger and S. S. Bunting were appointed tellers, and reported the unanimous election of the gentlemen named in the list to membership in the Association.

George C. Close read a paper on Conia and its Salts, in answer to query 33d, accompanied by a specimen of muriate of conia—the paper was accepted and referred.

The Committee appointed to consider the subject of the renewal of prescriptions, as brought up from last year, read the following preamble and resolution as their report.

Whereas, The East River Medical Association of New York, through its Secretary, has submitted a preamble and series of resolutions regarding the renewal of Physicians prescriptions without due authority for such renewals, for our consideration, and

Whereas, The discussion of this important subject has called forth a free expression of opinion from our members, therefore

Resolved, That this Association regards the Pharmacist as the proper custodian and owner of the Physician's prescription once dispensed.

Resolved, That however desirous we may be to accede to the request

of the East River Medical Association, the restriction of the Pharmacist to a single dispensing of a prescription without the written authority of the prescribing physician for its renewal, is neither practicable nor within the province of this Association.

Nevertheless we regard the *indiscriminate* renewal of prescriptions, especially when intended for the use of others than those for whom they were prescribed, as neither just for the physician nor to the patient, between whom we stand as conservators of the interests of both, and that such abuses should be discouraged by all proper means.

Signed,

F. Stearns, of Detroit, Mich.
Ferris Bringhurst, of Wilmington, Del.
Henry W. Lincoln, of Boston, Mass.
Prof. J. Faris Moore, of Baltimore, Md.
John H. Pope, of New Orleans, La.

On motion, the resolutions were adopted and the Committee discharged, by an unanimous vote.

Prof. Bedford, of New York, read a paper in reply to query 18, on the Morphia-strength of Commercial Opium.

The same gentleman replied to query 29, on Syrup of Lactucarium, both of which were accepted and referred.

Prof. Maisch made some verbal remarks on the lactucarium from American species of lactuca, and exhibited a specimen of the product, which in its physical characters is closely allied to the commercial drug.

Henry W. Lincoln, of Boston, offered the following resolution, which was carried:—

Resolved, That a committee of five be appointed by the Chair to solicit photographs of members of the Association, to be kept in an album to be on exhibition at our annual meetings.

The President subsequently announced the following as the committee on this subject, viz:—Henry W. Lincoln, of Boston, P. W. Bedford, of New York, James T. Shinn, of Philadelphia, Louis C. Strehl, of Chicago, G. E. Jeannot, of Louisville, Ky.

Then adjourned until three o'clock this afternoon.

Sixth Session.—Thursday Afternoon.

President Parrish, presiding, opened the meeting at 3½ o'clock. The minutes were read and adopted.

On motion of Ferris Bringhurst, it was

Resolved, That the Secretary be directed to furnish a copy of the resolutions in regard to the renewal of prescriptions to the East River Medical Association.

The Secretary now read the following communication from Chicago.

"CHICAGO, Sept. 5, 1868.

At a regular meeting of the Chicago College of Pharmacy, held Sept. 2d, 1868, a resolution was passed extending a cordial invitation to the American Pharmaceutical Association, to hold their next annual meeting in the City of Chicago.

LOUIS STREHL,
Recording Secretary.

To the Secretary of the American Pharmaceutical Association."

The Secretary read the report of the Committee on the legislation regulating the practice of Pharmacy, which was accepted.

The resolution appended to the report came up for action. The Business Committee offered an amendment that it is expedient to appoint a committee to frame such a law.

The amendment was adopted. An amendment to strike out the clause referring to the American Medical Association and to local bodies, was adopted, when the resolution stood thus :

Resolved, That it is expedient to appoint a committee to draft a law to be presented to the legislatures of the various States.

After some discussion on the number of members to be appointed on this duty, the number three was adopted, when the resolution as amended was adopted.

The Committee on the Code of Ethics made a verbal report to the effect that they had examined the subject and find that the Code was adopted with the Constitution at the beginning of the Association, and, although it has never been formally set aside or abolished, it was practically so considered when the Constitution was thoroughly revised in 1856, since when it has not been printed with the Proceedings annually. The Committee recommended the reading of the Code, and the first article of the Constitution, that members may know just what they contain, and then by a vote decide whether to abolish the former.

Pending the consideration of this report, a motion to adjourn till 9 o'clock to-morrow morning was carried.

Seventh Session.—Friday Morning, Sept. 11th.

The meeting was called to order by the President at 9½ o'clock, when the minutes of the sixth session were read and adopted.

Prof. Procter, Chairman of the Committee on the Code of Ethics, read the Code and Article 1st of the Constitution.

It was moved and seconded that the Code of Ethics is considered to be superseded by and embodied in Article 1st of the Constitution, which was unanimously adopted.

The Secretary announced that Mr. F. V. Heydenreich has received several copies of a monograph on Cantharis officinale, by M. Armand Fumouze, for distribution.

It was announced that several members had found fault with the certificate of membership, considering it not sufficiently ornamental. To test the views of the members, it was moved and seconded that a new certificate be obtained. When all the votes were cast in the negative.

Dr. Frederick Hoffmann, of New York, made some remarks on the eminent services of Prof. Dr. Ehrenberg, of Berlin, and called attention to the propriety of expressing the sentiments of this Association towards that savant, to be presented to him on the *jubilæum* to celebrate the fiftieth anniversary of his scientific doctorate. After other remarks in the same direction, Dr. Hoffman presented the following resolution:

"*Resolved*, That a committee of three be appointed to embody the kind sentiments of this Association, to be sent to Dr. Ehrenberg, of Berlin, on the occasion of his approaching jubilæum, in the name of the Association."

The resolution was unanimously adopted.

Dr. Hoffmann, Prof. Procter and Prof. Maisch, were appointed by the Chair to carry it into effect.

Prof. Procter moved the following:—

"*Resolved*, That the Executive Committee are hereby instructed to have the reports on the Legal Aspects of Pharmacy and on the Drug Market printed in larger editions than the volume of Proceedings, that extra copies of the former be furnished to the libraries of the several State Legislatures, to the governors of the several States, and leading judges of the courts, and

that the latter be placed at the disposal of the Committee on the Drug Market for the coming year."

The resolution was adopted.

On motion of the Business Committee, it was unanimously resolved that the Association meet next year in the City of Chicago, on the first Tuesday in September.

Scientific papers being called for,

Charles L. Eberle, of Germantown, Phila., read the reply to query 11, on Gelseminia, which was accepted and referred for publication.

Mr. Eberle also read the answer to query No. 30, on Suppositories, which he illustrated with specimens. The paper was accepted.

Prof. Markoe read a reply to query No. 22, on Permanganate of Potassa as an agent for purifying alcohol rendered impure by use in pharmacy as an extracting agent, &c. Which was accepted and referred for publication.

Prof. Parrish read a paper on Practical Education in Pharmacy, which was accepted and referred.

Dr. Squibb read a paper on Valerianic Acid, by F. C. Musgiller, of Brooklyn, in reply to query 24, which was illustrated by specimens.

The paper was accepted and referred.

Prof. Maisch read three papers by Dr. S. P. Duffield, in reply to queries 26, 34 and 40, which were respectively on the Preparation of Pyrophosphate of Iron; on the relative Digitalin value of American grown and European Digitalis leaves; and on the question, are the leaves of Podophyllum peltatum poisonous? They were all accepted and referred for publication.

The Executive Committee now brought forward a list of eminent pharmaceutists in Europe, who had been suggested to them in a communication signed by Messrs. Taylor, Bedford, Lincoln, Heydenreich, Parrish, Procter, Hoffman, Moore, Tufts, and Maisch, as worthy of election to honorary membership in this Association; viz.:

Daniel Hanbury, London, England.	Dr. F. A. Flückiger, Bern, Switzerland.
Henry Deane, " "	
A. T. DeMeyer, Brussels, Belgium.	M. Robinet, Paris, France.
Norbert Gillé, " "	M. Boullay, " "

Dr. G.C. Wittstein, Munich, Bavaria	Dr. G. Dragendorff, Dorpat, Russia.
Dr. Frederick Mohr, Bonn, Prussia.	Dr. Arthur Casselmann, St. Petersburg, Russia.
Dr. Hermann Hager, Berlin, "	

A ballot was ordered, and they were unanimously elected honorary members of the Association.

The Executive Committee offered the following list of candidates for membership,—viz.:

Geo. Foss, Hoboken. N. J.	John C. Hurst, Phila., Pa.
Chas. P. Johnson, Memphis, Tenn.	A. W. Wright, " "
Wm. F. Roche, Philada., Pa.	James Evesson Bright, Worcester, Mass.
John E. Grove, " "	

Messrs. Thomas A. Lancaster and Jos. P. Remington acting as tellers, announced them unanimously elected to membership.

Prof. Maisch exhibited a sample of Galanga root, which had been sold in the West as Radix Blodgetti, at 25 cts. per ounce, to meet the demands of a certain quack formula in vogue some time ago.

Thomas A. Lancaster moved the following resolution:

Resolved, That a committee of three be appointed to draft and present at the next annual meeting, rules and regulations in compliance with parliamentary usages, so as to facilitate and expedite the business of the Association.

Mr. Stearns moved to amend by referring the subject to the Business Committee, which was seconded and passed, when the resolution as amended was adopted.

The Secretary announced the reception of certain books from Messrs. Wood & Co., of New York.

On motion of Mr. Stearns, they were accepted, and the thanks of the Association tendered to that firm.

The committee to draft a law and memorial, in accordance with the resolution previously adopted, was now announced as Wm. Wright, of New York, Frederick Stearns, of Detroit, and J. Faris Moore, of Baltimore.

William J. Allinson, of Burlington, N. J., moved that the President and Secretary be added to that Committee. Charles A. Tufts took the question, which was unanimously adopted.

Ferris Bringhurst read a paper in answer to Query 35, on the use of yellow and white wax in ointments, which was accepted and referred.

Dr. Squibb read a reply to Query 36, which was accepted.

Prof. Procter remarked that he had requested, through his friend Dr. Squibb, that no queries be given to him last year. Those on the list being old questions continued, he asked to be excused from replying to them, which was granted.

Mr. Heydenreich made some verbal remarks relative to Query 39.

Query 41, referred to Mr. Markoe.

The Secretary read papers by William Saunders, of Canada, on Oil of Stillingia, and by A. T. Moith, on Secret Nostrums, which were accepted and referred.

Henry W. Lincoln now read a voluntary paper on the Apothecary's Coat of Arms, illustrated with several drawings, which was accepted.

The Executive Committee proposed the following name for membership:

Alex. C. Peters, of Newark, N. J.

Messrs. Dalrymple and Heydenreich were appointed tellers, and reported his election.

Louis Strehl read a paper on Extract of Meat, by the Messrs. Tourtelot, which was accepted.

Mr. E. J. Dobbins exhibited a patented machine for making suppositories by pressure, on the syringe principle, the piston being operated on by a transverse lever, acting on a rachet wheel attached to a screw on the end of the piston, which gave great power. The result is a cylinder, from which sections are cut of the length desired. By having nozzles of various calibre the sizes are varied.

Mr. Markoe exhibited a pill-roller and cutter ingeniously contrived, which, as it was not patented, was directed to be figured for the Proceedings.

Mr. Stearns offered the following resolution:

Resolved, That the thanks of the Association are eminently due and hereby heartily tendered to the members of the College of Pharmacy of Philadelphia for the use of their college rooms during the sessions; and, together with them, to the druggists and pharmacists of this city, for their attentive and generous care of the Association, and for the kind hospitality to the members and their families during the visit to Philadelphia.

The question was taken by Mr. Tufts, of Dover, N. H., and carried without dissent.

Resolved, That the thanks of the Association are due and are hereby tendered to the retiring officers for their labors during the past year, and to the acting officers for their attention during the sessions.

The question was taken by Dr. J. Baker Edwards, of Montreal, and carried.

Resolved, That we thank our highly competent and careful reporter, Mr James H. Slade, of Boston, and the several reporters for the public press who have attended our sittings.

Carried unanimously.

Dr. Frederick Hoffmann, Chairman of the Committee on Exhibition, offered some remarks on the specimens on exhibition, speaking favorably of them, and promising to prepare a written report in time for the Proceedings. [See editorial.]

James T. Shinn made a motion to allow the Committee sufficient time to complete their report.

Prof. Procter, on behalf of Prof. Parrish, late Chairman of the Committee, brought forward the completed report on Queries, which was accepted, and is as follows:

The following Queries have been prepared and have been accepted by the members during the session, viz:—

QUERY 1st.—An inquiry into the origin, culture, and trade in Rhubarb in China?

Accepted by Henry W. Lincoln, of Boston.

QUERY 2d.—Does the milky juice of the common species of Asclepias possess narcotic or other medicinal properties? (Two years will be required to answer this query, as the season is now too far advanced to collect the juice in its perfection.)

Accepted by Prof. J. M. Maisch, of Phila.

QUERY 3.—What are the best forms for using Celandine (Chelidonium majus, Linn.) in medicine, including its recent juice, with formulæ?

Accepted by Prof. J. J. Graham, of Philadelphia.

QUERY 4th.—What are the best processes for ascertaining the strength of fluid extracts and tinctures containing no alkaloids?

Accepted by Prof. Graham.

QUERY 5th.—What is the most eligible process for obtaining persulphate of iron in a dry powder, not objectionable for deliquesence?

Accepted by F. V. Heydenreich, of Brooklyn, N. Y.

QUERY 6th.—Are the extract and fluid extract of Conium of commerce

as inert as some recent writers represent, and can these preparations, made by the process of the Pharmacopœia, be depended on?

Accepted by G. F. H. Markoe, of Boston.

QUERY 7th.—Are Sugar-coated Pills of commerce generally as soluble as those of like age kept under ordinary circumstances without coating?

Accepted by John Buck, of Chelsea, Mass.

QUERY 8th.—What kind of glass ware is, on the whole, best adapted to shop furniture—what shapes are most to be preferred for salt-mouthed and tincture bottles, and what kinds of dispensing and prescription bottles are best? With practical remarks on the glass manufacture in its bearings on pharmacy. *Accepted by T. S. Wiegand, of Phila.*

QUERY 9th.—Whence are the Corks of commerce derived, and where are they cut; with general observations on the commercial history of Corks and Cork Wood?

Accepted by P. W. Bedford, of New York.

QUERY 10th.—What strengths of Alcoholic Menstruæ are best adapted to the treatment of the officinal gum resins with reference to producing permanent preparations less incompatible with aqueous dilutents than the present officinal tinctures?

Accepted by Alfred B. Taylor.

QUERY 11th.—Which of the preparations of the late edition of the Prussian Pharmacopœia are preferable to like preparations in our own; and what new Drugs and preparations in that standard should be transferred to the U. S. Pharmacopœia, out of regard to the numerous German practitioners in the United States?

Accepted by Victor Heydenreich, of Brooklyn.

QUERY 12th.—Gelsemium Sempervirens is found to be a valuable remedy in the treatment of nervous symptoms, consequent on the suspension of opium after its habitual use. What forms of preparation and what combinations with opium, if any, will be useful in practice?

Accepted by Dr. J. Manlius Smith, of Manlius, N. Y.

QUERY 13th.—What are the sources of Asphaltum of commerce, now so largely used in roofing, and what uses is it capable of in Pharmacy?

Accepted by G. F. H. Markoe, of Boston, Mass.

QUERY 14th.—How does Pharmacy compare in its emoluments and social advantages with other professions and trades, and what general means, if any, can be adopted to render it more profitable and to regulate the number of its practitioners?

Accepted by Frederick Stearns, of Detroit, Mich.

QUERY 15th.—What are the sources of Bromine in the United States, and what is the extent of its production for the supply of commerce?

Accepted by Charles H. Dalrymple, of Morristown, N. J.

QUERY 16th.—What is the best substitute for Camphor for the protec-

tion of woolens from moths and other insects, that will be cheaper and equally effective.

Accepted by G. F. H. Markoe, of Boston, Mass.

QUERY 17th.—In view of the scarcity and high price of Cardamoms, may not Asarum, Canadense, Canella Alba, Calamus and Ginger be used singly or combined in place of that aromatic in some officinal preparations at the next Revision of the Pharmacopœia.

Accepted by Joseph L. Lemberger, of Lebanon, Pa.

QUERY 18th.—What are the sources of Vinegar made and sold in the United States, and what relation in quantity and quality does the true cider vinegar produced bear to that from other sources.

Accepted by P. R. Hoagland, of Boston.

QUERY 19th.—What is the actual practical power of the Microscope for detecting impurities in commercial powders of drugs?

Accepted by Joseph P. Remington, of Brooklyn, N. Y.

QUERY 20th.—Lycopodium Clavatum is said to grow in this country. To what extent is this true, and may the lycopodium sporules be collected from it for the supply of commerce?

Accepted by Prof. J. M. Maisch, of Phila.

QUERY 21st.—What process can be recommended as easy of execution and affording accurate results for determining the percentage of crystallizable alkaloids in cinchona bark?

Referred to Dr. Samuel P. Duffield, of Detroit.

QUERY 22d.—An Essay on Abies Canadensis and its products yielded to medicine and the arts.

Accepted by William Procter, Jr., of Phila.

QUERY 23d.—On the present sources of supply and the statistics of the indigenous drug trade of the United States.

Referred to Louis C. Diehl, of Louisville, Ky.

QUERY 24th.—Tapioca is largely substituted by a product made from other feculas. To what extent is this imitation practiced, and what are the natural sources of the fecula.

Prof. J. Faris Moore, of Baltimore.

QUERY 25th.—Soluble Pyrophosphate of Iron in scales is observed to become less soluble by keeping. What is the cause of this change, and how may the salt be obtained of constant solubility.

Accepted by G. E. Jeannot of Louisville, Ky.

QUERY 26th.—What are the best practical tests for the purity of Bromide of Potassium.

Accepted by J. F. Llewellyn, of Louisville..

QUERY 27th.—The fusing point of true butter of Cacao being near that of the temperature of the body, what is the influence of such additions as wax, tallow, &c., on its fusing point, and to what extent are such addi-

tions objectionable as irritants, if at all, in vaginal and urethral suppositories.

Accepted by Charles L. Eberle, of Phila.

QUERY 28th.—The existence in the dry state of Bisulphate of Soda has been doubted, in contradiction to older observations. Can a dry bisulphate of soda be obtained by any one of the published or some other process? If so, does the salt possess sufficient stability as a medicinal agent?

Accepted by S. P. Duffield, of Detroit.

QUERY 29th.—Ammoniated Citrate of Bismuth dried in scales has become an article of commerce. What percentage of bismuth does it contain, as obtained from different sources, and by what process can the largest amount of oxide of bismuth be obtained in this form in soluble condition?

Accepted by J. F. Llewellyn, Louisville, Ky.

QUERY 30th.—Can a pharmaceutical preparation be made from the recent or dried herb of Lactuca Elongata, Muhl., which may be used as a substitute for Lactucarium and its preparations?

Accepted by Prof. John M. Maisch, of Phila.

The committee on nominations presented the name of William H. Fuller, of Chicago, for Local Secretary, which was adopted.

Prof. Maisch mentioned that he had received a letter from M. Berbrugar, of Panama, stating that he would send some specimens of drugs to the Association, but that they had not arrived.

[Prof. Maisch informs us that they have been received since the meeting.—ED.]

On motion, the meeting now adjourned to meet in Chicago, on the first Tuesday of September, 1869.

NOTE ON WINE COLCHICUM SEED (ENG.)

BY JAMES T. KING.

Complaints having been made that some wine of colchicum seed (English) failed to produce its peculiar effects in several cases, even when its administration was run up to teaspoonful doses every four hours, until several ounces were taken, I was induced to make an examination of the wine, to ascertain if it was so deficient in the active principle.

The following method was adopted: From a bottle bearing

the label of the English manufacturers, and having the seal over the cork unbroken, one fluidounce was taken, placed in a porcelain capsule, about one grain of oxalic acid added, and the wine allowed to evaporate spontaneously to the consistence of a soft extract.

This extract was exhausted with two drachms of distilled water, and filtered, the filtrate slightly supersaturated with liquor potassa, and two fluidrachms of pure chloroform were then added in a test tube, and the mixture thoroughly agitated several times.

The chloroform was allowed to settle, and then the contents of the test tube poured slowly into a small separating funnel. When the chloroform had become clear, it was run off into a small capsule and spontaneously evaporated, leaving a small amount of yellowish-green residue.

This was treated with one drachm of distilled water, to which had been added two drops of dilute sulphuric acid, then filtered, to filtrate added one drop of Mayer's test,—the $\frac{1}{10}$ normal solution of iodohydrargyrate of potassium,—but obtained not the slightest reaction or trace of a precipitate, showing the wine to contain little or none of the colchicia. To prove that this method would determine the presence of the active principle, one fluidounce of some wine of colchicum that we made from a fair lot of seeds according to the U. S. P. was treated in precisely the same manner as above described, and, on the addition of one drop of the test liquor, a copious canary-colored precipitate was obtained.

Four drops of the test solution were required to precipitate all of the alkaloid.

Physicians report this wine as efficient and active, corroborating the chemical test.

Middletown, N. Y., Sept., 1868.

NOTE ON THE CLEANSING OF COD-LIVER OIL BOTTLES.

By William Procter, Jr.

It is not unusual with the pharmaceutist to take back the empty bottles from consumers of cod-liver oil, and the corks be-

ing left out, the air causes the rapid oxidation of the small portion of oil left in each bottle, which becomes semi-fluid, and sometimes nearly solid, and is very troublesome to remove. This is also true of the exterior, which frequently is badly soiled with oxidized oil entirely solid. The junior whose duty it may be at intervals to cleanse the accumulated store of bottles preparatory to refilling, has frequently been worried by the tedious task. The most usual way is to boil the bottles in water containing soda, potash, or soft soap, which, when a large kettle is used, greatly facilitates the process, especially if the alkali employed is caustic; but this involves much space and a fire, and the handling of the bottles is difficult, so that the following plan will be found more convenient in the shop :

Provide a pint of good *benzine*, half a pound of pearlash (or a pound of sal soda), a quarter of a pound of lime, and half a gallon of boiling water. Slake the lime with a part of the water, and add it to the balance containing the potash in solution, and agitate them. These quantities for half a gross of pint bottles. Put about two fluidounces of benzine in a bottle, agitate it well, and in a few moments it will have dissolved all the oil, when it may be poured into another oily bottle, drained a moment, and then four ounces of the liquor potassæ cum calcæ is introduced (which should be warm), a good cork used, and the bottle well agitated. By means of a small sponge tied on a twisted wire, apply the alkaline liquid to the exterior of the bottle, standing in a shallow tin dish capable of supporting four or five bottles. Now pursue a regular order of sequence with the benzine and alkali inside and the alkali outside, shifting the benzine from bottle to bottle until it gets too foul for further use, and then the alkali from bottle to bottle, until it also is exhausted, the interior is soon cleansed, and a thorough rinsing with water completes the work. When the exterior of the bottles is very foul, it will be most convenient to apply the alkali externally *after* the benzine has been used, which enables the operator to see when all the oil is dislodged from the interior when the alkali is subsequently used inside. Finally rinse with alcohol.

Care should be used to reject and throw away the benzine solution of the oil before it gets so foul as to lose its thin consist-

ence favorable to draining, which, when the bottles are dirty, will occur with the eighth or tenth bottle.

It is a good plan, when many bottles are thus taken back, to clean them partially with a little benzine before putting them away, and wiping the exterior with the same, which renders the subsequent labor very easy. These remarks apply to castor oil and other oil bottles or cans. The latter often become very impure, so as to contaminate fresh oil put in them temporarily for transportation, and it would be well for *druggists* who habitually supply cod-liver oil to their pharmaceutical customers in cans, to make a rule systematically to drain them, and occasionally to cleanse them as above, observing to get them absolutely dry before using. Such cans should always be kept corked, and when the corks become foul they should be rejected. These remarks may be considered superfluous by many. For such they are not intended; but if a few only are benefitted by the hints, they will have answered a useful end.

Philad., Sept. 26, 1868.

GETTYSBURG MINERAL SPRING.

By Dr. John Bell.

Notwithstanding its great mineral wealth, Pennsylvania has but few mineral springs. Until recently, that of Bedford was the only one that could be resorted to with any confidence in its water possessing actively medicinal properties. Of late, however, it finds a rival in the Gettysburg Mineral Spring, which, after due deductions from the extreme claims advanced in favor of its wonder-working powers, seems to be entitled to a place in the materia medica as a remedy in gout, chronic rheumatism, dyspepsia and renal diseases, especially in those in which the lithic acid diathesis prevails. In its sensible properties of taste and absence of smell, the Gettysburg has nothing to distinguish it from common water; but it has a marked peculiarity in not undergoing any change by removal from the Spring and subsequent transportation to any distance,—thus allowing of its use by invalids in all places and seasons.

An analysis of the Gettysburg water has been made by Dr.

Mayer, late assistant to Prof. Henry, of the Smithsonian Institution at Washington. He found one imperial gallon to contain:

	Grains, Troy.
Bicarbonate of Soda, " Lithia,	46·05
" Potash,	trace.
" Magnesia,	76·05
" Iron,	trace.
" Lime,	81·00
Sulphate of Lime,	53·20
Chlorides,	trace.
Phosphates,	trace.
Silica,	10·00
Total,	266·30

Variations have been noticed in the amount of mineral impregnation of the water at different seasons. The proportion of lithia is not given, and we are left to conjecture how far the presence of this antipodagric substance goes to explain the removal, by the use of this water, of lumps or nodosities, improperly called "chalk stones," from the joints of persons who had previously suffered from rheumatic gout. Cases of this kind are reported, on apparently good authority. We must regard as worthy of all credence, both from his intelligence and high character, the statement of the Rev. Dr. Moriarty's case of gouty rhumatism, written by himself and published in different journals. He had been a sufferer from the disease for sixteen years, one of the attacks being of five months duration, and accompanied by great pain and inability to move. He was entirely restored to the free use of his limbs by a persistent use of the Gettysburg waters for some months, at his own home. He took altogether ten gallons of the waters.

Of the recent cases showing the curative power of this water in rheumatism, the most remarkable is the one of a young lady from Maryland, who visited the spring last summer, as described by Dr. Weaver. Her first attack of rheumatism came on five years ago, and returned at intervals more or less severely until she was reduced to an apparently hopeless condition. Her joints, including those of her fingers and toes were enlarged by "urate

or chalky deposits." She had been troubled for a long time by menstrual irregularities, and a cough which was pronounced by some of her physicians as consumptive. When she first came to the spring she had to be carried about like a child by her servants, owing to the extreme debility and pain under which she suffered. We are not told of the length of time during which the water was used, nor the quantity drank; but the results are very striking. "In thirteen days she was enabled to walk with but little assistance from her servant, and improved so rapidly in all respects that she now appears to be permanently cured, being relieved from the cough, general debility and the irregularities referred to, also the enlargements or chalky deposits around the joints. When she came to the Spring she only weighed 61 pounds; she now weighs 90 pounds."

The sensible operation of the Gettysburg waters, taken to the extent of a pint, is sometimes aperient, and even in smaller quantities diuretic. It effects some persons who drink it with slight vertigo, showing a certain amount of action on the nervous system.

PHILAD., Oct., 1868.

NOTE ON AMERICAN OPIUM FROM VERMONT.

BY WILLIAM PROCTER, JR.

A few weeks ago my attention was called to a sample of "opium," by Mr. C. Wilson, of Monkton, Addison Co., Vermont, who said he had been requested by persons interested in the success of his enterprise to have it examined. On inquiry as to its origin, Mr. Wilson said it was of his own production in the neighborhood above mentioned, and that he had been engaged in the culture for several years, and that it was quite lucrative. After the weather was settled in the spring the seed of the opium poppy (Papaver somniferum) was sown in ground prepared as for a garden, in which the plants grew vigorously, and about the middle of August the capsules attained their size. The collection of the juice was commenced at this time and continued until the first of September, when the whole plants were cut, bruised with a portion of alcohol to prevent fermentation, and then subjected to strong pressure; the juice thus obtained was evaporated to

an extract, incorporated with the inspissated juice of the capsules, so that when finished the whole constituted a soft mass of pilular consistence and nearly homogeneous texture, (except a few fragments of vegetable tissue,) possessing a strong narcotic odor almost precisely that of good ordinary opium, but not so decided, and a uniform dark brown color. Its reaction is acid. This year Mr. Wilson obtained 640 pounds of this opium from six and a quarter acres of land, being 100 pounds to the acre, for which he obtained prices varying from eight to ten dollars per pound from druggists and physicians in New England.

When macerated in water it soon breaks down and is readily extracted. The pulpy matter left from 100 grains after percolation with water until exhausted, amounted to 25 grains. One hundred grains carefully dried in a hot air bath weighed 84 grains, and hence contains 16 per cent. of moisture. Subjected to the action of diluted alcohol until exhausted, the residue weighed 13 grains. Treated with ordinary ether and dried, the moist opium lost 20 per cent. of its weight; but 16 per cent. of this loss is due to water in the normal opium, leaving the ethereal extract equivalent to 4 per cent. The ethereal solution had a light greenish color, due to chlorophylle. On evaporating the ether spontaneously, the residue consisted of numerous minute, well-defined crystals of narcotina, a greenish oleo-resinous matter, and the odorous matter of the opium. The crystals are nearly all prisms, with parallel sides and two-sided oblique terminations, and a few stellate groups occur. Separated and wiped, they afford an intense yellow color to nitric acid, and when treated with sulphuric acid followed by nitrate of potassa, they yield the usual deep red coloration of Orfila's test for narcotina. Benzine extracted 4.5 per cent. of green elastic caoutchouc matter containing narcotina. The aqueous and alcoholic solutions respond freely to the tests for *meconic acid.*

The morphia present was assayed by the process of Mohr.

100 grains of the moist opium (representing 84 grains dried) was exhausted with repeated portions of cold water and finally percolated, until four fluidounces of infusion was obtained. This was boiled with 100 grains of lime previously slaked with some of the weaker liquid for fifteen minutes, filtered hot and the

dregs percolated with boiling water till exhausted of the soluble matters of the opium. The alkaline infusion, slightly acidulated with muriatic acid, was evaporated to about half a fluidounce, and when cold neutralized with ammonia and filtered, to separate coloring matter, and then carefully evaporated to about 200 grains, and a slight excess of ammonia added whilst yet warm. After standing twelve hours the crystalline precipitate was carefully collected on a small tared filter, washed, dried, treated with ether and weighed 6·25 grs. This precipitate afforded the characteristic reactions of morphia with nitric acid and sesquichloride of iron.

Now from these results it must be inferred that this new kind of opium contains 6·25 per cent. of morphia in its moist commercial condition, or 7·44 per cent. when it is dry; and that it is much more soluble in water than ordinary opium, affording 75 per cent. of its weight to that fluid. The tincture made from it by the officinal process has the appearance and odor of ordinary laudanum, but of its therapeutic character in relation to Smyrna opium I am wholly uninformed. Now there need be no hesitation in saying that this opium is below the standard of the Pharmacopœia. The maker appears to be entirely candid and honest in his conduct of the process, and the fault is in his not knowing the real character of the substance he is dealing with, and the importance in medical and hygienic points of view that it be parallel in strength with fair Turkish opium, to obtain and deserve the confidence of physicians, apothecaries and druggists. It is probable that the pure exudation from the capsules unmixed with any foreign matter rarely reaches us in the opium market, and there may be less impropriety in employing the inspissated juice of the poppy than the various matters that are introduced at Smyrna and elsewhere, to give consistence to the too soft exudation from the capsule and increase the volume of the product. The fact that 640 pounds of an opium, containing between six and seven per cent. of morphia, was produced in a few weeks after the poppy attained its proper size, from six and a quarter acres of land, in a climate as far north as Vermont, by a moderate force, seems to warrant the belief that, under intell-

gent regulations, the culture of opium might be effected in this country so as to be a profitable crop. The need of assaying it would be imperative until its physical characters became sufficiently well established to be depended on by commercial dealers.

We would advise Mr. Wilson, he knowing the amount of extract he adds, to reduce its quantity so that the pure juice of the capsules may bear a larger proportion to the gross amount produced. Probably one-half less would make the result nearer commercial opium, containing 10 per cent. of morphia.

There are various experiments going on at the south and west, in Mississippi and elsewhere, this season, but as yet the results have not reached me. The subject is sufficiently important to claim the attention of the American Pharmaceutical Association, and if experimenters throughout the country will communicate their results to the writer with a clear statement of the processes of culture and preparation employed, he will engage to give a faithful report of them to the next meeting at Chicago. It would be best to accompany each communication, if any are sent, with about half an ounce of the product, fairly representing the gross amount produced by the sender.

Philadelphia, Oct. 1868.

SULPHATE OF NICKEL—A SEDATIVE.

J. Dabney Palmer.

In a communication to the *Richmond Medical Journal* last spring, the attention of my medical brethren was invited to the sedative action of sulphate of nickel in neuralgia.

It has since been employed in a variety of painful affections, and also with the view of simply producing sleep, where Dover's powder and other preparations of opium were contra-indicated, and in every instance produced the desired effect. This experience, although limited, inclines me to believe that the sulphate may be regarded as a valuable sedative. And, unlike many others of that class, it is not followed by disagreeable sensations, nor derangements of the alimentary canal.

Monticello, Florida, Oct. 7, 1868.

ON SYRUP OF CHOCOLATE AS A VEHICLE FOR QUININE.

Editor Journal of Pharmacy.

Sir,—At the suggestion of Dr. C. R. Prall, of this city, I have prepared a syrup of chocolate as an excipient for the administration of quinine, and find it to answer the purpose so admirably and to disguise the taste of the quinine so perfectly, that I send it to you for publication, although our experience with it so far has not been satisfactory, as in one case in which it was given, the child, a girl of 14 years, took xxxii grs. of quinine in 48 hours, (combined in this syrup) without any effect for which it was given, viz., chills and fever. It was supposed from this that the chocolate so affected the quinine as to destroy its anti-periodic properties, so the physician discontinued its use, and gave the sulphate of quinia in pills. Since then, I have observed that a very small quantity of acid sulph. aromat., added to a solution of quinine in the syrup develops the bitter of the quinine intensely, the suggestion then arises, would it not be advisable to administer a small quantity of the acid or lemonade after the quinine and chocolate, to render it soluble in the stomach. None of the physicians I have mentioned it to have had an opportunity to try it since suggested, but will do so on an opportunity presenting. I advance the idea and let the profession follow it up, for it is decidedly the best excipient yet known for disguising the taste of quinine, and if it can be brought into general use, will be invaluable as a vehicle in the administering of quinine to children.

I prepare the syrup of the strength of two ounces of cake chocolate to the pint, shave the chocolate, mix it with the sugar and proceed as for simple syrup, but it is necessary to be very careful, or it will burn. One party that has tried making the syrup, has had difficulty in keeping it, as it will ferment. I have had no trouble in that way as yet. I use the full quantity of sugar and let it boil for five or ten minutes, and strain before it is cold.

Yours, &c.

Jas. Kemble.

Philadelphia, Oct. 6th, 1868.

THE PARIS EXPOSITION OF 1867.

By the Editor.

The powerful influence of exhibitions in ameliorating the condition of civilized peoples will hardly now be questioned. Beginning in towns and cities in reference to all branches of the mechanic arts, the fine arts, and horticulture they have extended into the country, and every county and state has its agricultural exhibitions. People are brought together in the presence of the best specimens of their productions, and whilst socially mingling with their fellows, imbibe ideas of improvements in various objects useful or interesting which they do or may render available for their own advantage. From these initial efforts in Europe came the grand idea of the Universal Exhibition for all countries, which was opened in the Crystal Palace, in Regents Park, London, with such wonderful success. Gathered there through the ubiquitous influence of Great Britain, were the natural products and the industrial and artistic creations of nearly the whole world, civilized and semi-barbarous. Coincident with this great collection of material objects, was the wonderful current of travel that set in towards the Metropolis from nearly all countries, which, perhaps more than any other feature of the Exhibition, tended to break down national prejudices and to make men appreciate the idea that they have a common origin and a common destiny, and however varied may be the allotments of Providence to nations and individuals, there are certain great lines of sympathy and principles of action which are sufficiently catholic to embrace the entire race of mankind.

Many of us can recall the "Universal Exhibition" held in New York in 1853, which, though a failure in its pecuniary aspect, did more for extending a knowledge of arts and manufactures in this country, than almost any other single influence of latter time. Then followed the Paris Exposition of 1855, the noble structure to accommodate which yet stands in the Champs Elysées, devoted as a museum of modern sculpture and painting. Next came the London Exhibition of 1862, and the Dublin Exhibition of May, 1868, and lastly the Paris Exposition of 1867, the most extensive and elaborate the world has yet seen, and the influence of which on the world will be felt long after the last traces of the exhibition have disappeared from the Champs de Mars. Having had the opportunity to a limited extent to glance over that wonderful collection, the inclination to say something about it has frequently recurred, but it has always been with the discouragement that presents itself when one undertakes to clasp an object too large for his grasp, or about which the most that could be said would be too little to convey an adequate idea of the endless variety and interest of the objects it contains. The only feasible plan is that of a regular correspondence during the period of the Exhibition, which shall involve not only the objects but many of the incidents, in a running com-

mentary. In order that our pages may not be entirely without some record of this great collection, we have concluded to undertake this letter.

Previous to 1866, in the south-western quarter of Paris, the extensive level parade ground between the Ecole Militaire and the River Seine, towards the north-west, was known as the "Champs de Mars." Here the principal building itself occupied the centre, being a vast oval structure of iron, wood and glass, having an area of 35 acres, and 1640 yards or nearly a mile in circumference. Interiorly it consisted of a series of concentric ovals, the outer one being far the widest and highest with a central elevated gallery, reached by stairs placed at intervals, and from which a most excellent view of the various machinery and processes in operation in this department could be best seen, such operations being confined to this ring. The centre was occupied by an isolated building devoted to the collections of weights, measures and coins of the world, around which and within the first or smallest oval was an open court or garden ornamented with statuary and flowers. Then a series of avenues, named after countries, radiated from the central court to the circumference, so that it was easy to go from one part to another when the visiter became acquainted with the topographical outline. The *first* oval from the centre was devoted to the statuary, painting and engravings, die-sinking, lithographing, designs and models. The *Second* oval exhibited the apparatus and applications of the liberal arts, book printing, paper, stationary, photography, musical, medical, surgical and mathematical instruments and apparatus, maps and geographical and cosmographical apparatus.

The *Third* oval or group included furniture, upholstery, glassware, porcelain, earthenware, carpet, tapestry, and furniture stuff, paper hangings, cutlery, gold and silver plate, bronze and other artistic castings, clock and watch work, apparatus and processes for heating and lighting, perfumery, morocco work, fancy articles and basket work.

The *fourth* group, which embraces clothing and various objects worn on the person, includes cotton, flax and woolen fabrics and yarns, silk and silk goods, shawls, laces, embroidery, trimmings, hosiery, clothing made, jewellery and ornaments, travelling and camp equipages, portable arms and toys.

The *fifth* group more particularly interested the pharmaceutist, as it includes raw and manufactured products of mining industry, forest, fisheries, and agriculture, chemical and pharmaceutical products, products of applied chemistry in bleaching, dyeing, tanning leathers, &c.

The *sixth* group included apparatus and processes used in the common arts, such as mining and metallurgy, chemical and pharmaceutical apparatus, weaving, spinning machinery, tools of all kinds used in the mechanic arts, in agriculture, the chase, the fisheries, together with prime mowers, boilers and engines, etc. This vast collection was embraced in the central part of the large exterior oval, and when in active operation toward the

middle of the day presented a scene of the most varied and interesting character, embracing as it did so many useful and curious arts and processes, from the plaiting of straw and the cutting of corks to the finest processes of the jeweller, watchmaker and lapidary.

The *seventh* group consisted of food, fresh or preserved in various states, such as the cereal grains, bread, pastry, fats, milk, eggs, meat, fish, condiments, sugar and fermented drinks.

The *eighth* group consisted of farm buildings, models and agricultural works, live stock, including horses, asses, mules, bulls, buffaloes, sheep, goats, pigs, rabbits, poultry, &c.

The *ninth* group related chiefly to horticultural buildings, and products.

The *tenth*, various articles exhibited with the special object of improving the physical and moral condition of the people, as apparatus used in instruction, improvements in furniture, clothing, dwellings, books, etc., having this object in view.

To get space for the immense number of articles sent that the main structure would not contain, numerous out-buildings were erected at the expense of the different countries wishing to occupy them, space being apportioned to each, and some of the most interesting processes and objects were to be found in isolated paths and avenues. In fact the visitor required a week to get a reasonably correct impression of the localities before any systematic examination of the Exhibition could be accomplished. The official catalogue, containing a mere enumeration of the articles deposited without any description, and not including many introduced later, embraces more than a thousand closely printed pages, while the special catalogues, gotten up by each country of any prominence, make a pile of voluminous pamphlets perfectly discouraging to any attempt at condensation. The objects of special interest to the pharmaceutist are so limited, when compared with the entire collection, that it has been thought feasible to give a few pages to their notice, and in the coming numbers we propose to introduce a few articles in continuation of this letter. W. P., Jr.

ON TINCTURA PHYSOSTIGMÆ.

By William Procter, Jr.

The tincture of Calabar bean (*Physostigma venenosum*) is occasionally prescribed in Philadelphia, and, not having seen a formula, the following is offered as affording the active constituents of this new remedial agent:

Take of Calabar beans, a troy ounce,
Alcohol, seven fluidounces,
Water, three fluidounces.

Reduce the beans to a fine powder in the mortar, mix the alco

hol and water, moisten the powder with half a fluidounce of this menstruum, pack it in a conical tube (the neck of a broken retort), and pour on the remainder of the liquid until eight fluidounces have passed. Should the menstruum indicated not be sufficient, add more, until the measure of half a pint is obtained.

When needed to *calabarize* paper, evaporate two fluidounces to the measure of *three* fluidrachms with a gentle heat, and when cold filter. This solution is about equal to that recommended by Mr. Hanbury (Pharm. Journ., July, 1863), and the paper (which should be thin letter paper deprived of its size by boiling in water) is dipped in it and dried three or four times, which will impregnate the paper with a sufficient amount of the extract to perform the needed service when applied within the eyelid.

GLEANINGS—CHEMICAL AND PHARMACEUTICAL.

By the Editor.

Production of an alkaloid during the alcoholic fermentation. By M. Oser.—In fermenting sugar with washed yeast M. Oser obtained, besides alcohol, an alkaloid to which he attributes the formula $C^{26}H^{20}N^4$.

The chlorohydrate of this alkaloid crystallizes in hygroscopic scales, becomes brown in the air, and possesses a pungent bitter taste.

The author is assured that this alkaloid does not pre-exist in the yeast, but that it is formed during the fermentation. Attention has already been directed to the presence of trimethylamin in wine (see page 333).—*Journ. de Pharm.*, from *Journ. Prakt. Chem.*

Atropia an antidote to Opium Poisoning.—Dr. M. S. Buttles, of N. York, notices a case in the *N. Y. Medical Record*, for Aug. 15, in which opium poisoning was caused by the sub-cutaneous injection of half a grain of sulphate of morphia in a bad neuralgia. The lips became purple, the respiration seven per minute, no pulse at the wrist, but one sound at the heart; pupils contracted to a fine point, frothing at the mouth and cold extremities. The usual resuscitating remedies were tried, and among them artificial respiration, without avail, when Dr.

Charles A. Budd suggested the hypodermic application of sulphate of atropia, 1-60th of a grain of which was injected after breathing had ceased, and in fifteen minutes she showed signs of life, the pupils began very slightly to dilate, and in ten minutes more she began to breathe and the respiration rose to 12 per minute. The dose was repeated in half an hour, consciousness returned in fifty minutes, and the patient is now living.

Pharmacy in Tuscany.—The practice of pharmacy in Tuscany has been the subject of action of a government commission, charged with the care of the new sanitary code adopted in the kingdom of Italy. The practice is left free to competition in principle, but under the double guarantee of the diploma and governmental surveillance. This restriction to absolute liberty, such as it exists in England, appears to be in accord with public opinion, and does not favor the encroachments and inconveniences of the illicit sale of pharmaceutical products.—*Gaz. Med.*, and *Rep. de Pharm.*

Naphthaline to repel insects.—M. Eugene Pelouse proposes to employ naphthaline to protect plants from insects. It does not act as an insecticide, but is so disagreeable to them as to cause them to leave a plant upon which it is sprinkled. It is used in very small quantities and said to be very effectual.—*Jour. de Chim. Méd.*

Paraffine as a lubricant for machinery—The need of a lubricant for machinery with heated surfaces has caused a substance of the paraffin class, mélène ($C_{50}H_{60}$), to be suggested for this purpose by M. A. Monnet. It is volatile at 370° C. without change, has the consistence of wax ordinarily, but soon softens by the friction, and when it is much heated it is very fluid and unctious.—*Jour. de Chim. Méd.*

Paraffin to protect vessels in crystallizing.—M. Franz. Stolba, of Prague, suggest the use of paraffin as a coating to vessels of glass or porcelain when these are attacked by certain liquids to be set aside for crystallization. The paraffin is put into the capsules, previously well dried and heated till it commences to boil; the vessels are then turned about so as to bring the paraffin in contact with the whole of the interior surface and then empty

out the surplus. After cooling it is found to hold well, and the vessels are ready for use; of course the solutions to be crystallized must not be heated, but left to spontaneous or vacuum evaporation.—*Jour. de Chim. Méd., Aout.*, 1868.

Lotion of glycerin and cantharides for the hair.

Take of aromatic spirit of ammonia	15 drams troy.	
Glycerin	8 "	"
Tincture of cantharides from	2 to 4 "	"
Distilled rosemary water	20 ounces "	Mix.

To be applied to the roots of the hair by rubbing in small quantities once or twice a day to stimulate the growth.—*Jour. de Chim. Méd., Aout.*, 1868.

Prussian justice for adulterating medicines.—On the 23d of June, the court of justice at Berlin rendered judgment against a Prussian pharmacien, named Coehn, for furnishing bad medicines to the Prussian Army when in Austria, condemning him to five years imprisonment, a fine of 1000 thalers, suspension from his civil rights for six years and the loss of his license (concession) as a pharmacien.

Solution of Vleminckx for the itch.—This liquid, recommended by Vleminckx, is a solution of sulphuret of calcium made as follows:

Take of quick lime	one pound.
Water	q. s. to slake.
Sublimed sulphur	two pounds.
Water	twenty pounds.

Mix and boil until reduced to twelve pounds and filter.

The medicine is employed as follows:—The patient is put in a warm bath and remains there half an hour, then all the parts affected by the itch are rubbed with a piece of flannel dipped in the solution as above; and the patient returned to the bath for half an hour. The next day this treatment is repeated, and usually is sufficient to cure.

Professor Hébra, for women and persons with delicate skins, often employs the following mixture:—

Petroleum oil (Seneka oil),
Alcohol, of each an ounce,

Balsam of Peru, a drachm,
Oil of rosemary,
Oil of lavander,
Oil of lemon, of each 22 grains. Mix.

This physician employs the solution of Vleminckx for psoriasis, prurigo and sycosis.—*Bull. Ther. et Jour. de Chim. Méd.*

WHAT IS OPIUM?

By Dr. F. A. Flückiger, of Bern.

This question, in our days, will certainly be looked at as perfectly idle, both by practical pharmaceutists and chemists. The drug, indeed, is well known, and has been universally used since the earliest time, in fact for twenty centuries at least; while to no other product of the vegetable kingdom has so astonishing an amount of excellent chemical research been devoted since the days of that glorious discovery of a modest Hanoverian *Apotheker*, who the first evolved the idea that there are bodies existing which are thoroughly analogous to ammonia or potash, yet composed of organic elements. Every one looking over the rich chemical literature of opium published from the time of Sertürner (1816) to the recent delicate investigations of Smith of Edinburgh or Hesse of Stuttgart, may well be satisfied with a mass of analytical facts so interesting, useful and complete. The present text-books, indeed, display a very satisfactory knowledge of this important drug, albeit they leave a little doubt regarding some of its numerous constituents.

Yet, I venture to say, that science is far from having an exact idea of the nature of opium. The endeavors of so many eminent chemists having failed to supply a thorough acquaintance with the drug, I cannot hope to fill up at once this defect, but merely wish to make it evident, and to contribute some facts concerning the composition of opium, which have escaped the attention of former investigators.

Opium contains a dozen of more or less decidedly alkaline bodies, among which morphine and narcotine occur in the largest proportion. The former constitutes very rarely more than 20 per cent. of the dried drug and usually not more than 12 to 15

per cent; the narcotine on an average about 5 to 6 per cent.* The whole of the other alkaloids, namely, pseudomorphine, codeïna, thebaïne, papaverine, rhœadine, narceïne, kryptopine, and opianine, may be estimated at not more than 1 per cent. Thus the alkaloids amount at best to only ¼ of the weight of the dried juice; and meconic and thebolactic acid, and meconine to nearly 5½ per cent. We may say, in fact, that allowing for the considerable discrepancies existing in the composition of opium, all the peculiar bodies found in it do not exceed one-third of its weight.

Now, what is the bulk of the remaining 66 per cent.?—However interesting, however important, both practically and scientifically, the first one-third may be, yet to have *a satisfactory idea of opium*, we require also to know exactly the nature of the other two-thirds. Most of the analyses of opium enumerate, in order to explain its composition, several very doubtful bodies besides the above-named principles. Among these, extractive, mucilaginous, and coloring matters occupy the first place. By successively treating with various liquids small quantities of opium, which alone admit of absolute exhaustion, we may separate its constituents into several portions. For the following assays I took a good Turkish opium containing 10 per cent. of morphine, which I finely powdered and entirely deprived of water. The first agent to which it was submitted was benzol. After the action of this liquid the powder was dried, without removing it from the funnel, weighed and then exhausted in the same filter with absolute alcohol. When it yielded nothing more to alcohol, the powder was dried and weighed again as above, and then exhausted with cold and hot water, with acetic acid, and with ammonia. Lastly, the residue was examined microscopically. It consisted of fragments of the poppy capsule, which now had become very obvious.

The benzol solution on evaporation yielded the narcotine and caoutchouc, which may be separated by acetic acid. Fatty matters occur, but only in slight traces.

Alcohol takes up the largest bulk; nearly all the bodies

* I had the opportunity of examining a German opium from Biltz, Erfurt, which yielded 11 per cent. of narcotine,

enumerated at the outset as peculiar to opium* are contained in the alcoholic tincture, and besides them sugar, a very small quantity of resin, and coloring matters. This portion of opium, representing the largest part of it, appears certainly to deserve the most attentive examination. I am sorry to state that I have not yet succeeded in isolating from it any new principle in a state of sufficient purity. The coloring matter, for instance, is extremely alterable.

Water dissolves chiefly *mucilage* from powdered opium, which has been previously exhausted by benzol and alcohol. The mucilage is precipitated by neutral acetate of lead, but not by silicate of soda; I have *not found in opium any gum analogous to gum arabic.* This fact, if confirmed by the examination of large quantities of good commercial opium, would enable one to say that any opium containing gum must necessarily be adulterated.

After the action of the water, acetic acid removes some salts and a little coloring matter, all in small proportion.

Finally, ammonia acts very manifestly upon the residue of the preceding operations. The powder swells and yields a brown liquid, which, being viscid, cannot easily be filtered. On the addition of an acid, of alcohol or even of chloride of sodium, a thick jelly at once separates. The *pectic acid*, thus obtained, has not yet been found by other observers, as far as I can see, though I think that it must henceforth be considered as one of the regular constituents of opium. I met with it in several sorts of the drug which happened to be at my disposal and likewise in a good standard opium from Asia Minor, for which I am indebted to Mr. E. Merck, of Darmstadt, who furnished me with the residues of the drug, which had been previously exhausted by hot water and by hydrochloric acid. It would be interesting to examine in this respect the various Indian opiums, which I presume to be of a somewhat different composition. From all the various reports on them, it appears that the Indian juice is more fluid than that collected in Asia Minor. Does this partly depend upon the absence of pectic acid or of mucilage? This investigation must be expected from chemists having at their com-

* Narcotine only excepted, as it has been met with in aconite tubers by Messrs. Smith.

mand considerable quantities of the residues of genuine opiums; they may state whether I am correct in saying that a pectic body must have a place among the normal constituents of the poppy juice.

After the treatment of the opium with ammonia, water is without any action upon the residue, which does not even swell; I consequently cannot agree with those chemists who admit *bassorine* as one of the principles of opium.

Examined under the microscope, the opium powder thus deprived of all soluble matters, shows very distinctly that it consists now exclusively of fragments of the capsule, which by incineration yield some ash, but not the whole amount of it, the inorganic salts having been already partly removed by alcohol, water and acetic acid. Among them a comparatively large proportion of alkaline sulphates, as well as of sulphate of lime is always met with. Sulphuric acid is set at liberty, if the precipitate obtained by neutral acetate of lead is decomposed by sulphuretted hydrogen in an alcoholic solution, which causes the mucilage to be precipitated.

In the manner indicated I completely exhausted 10 grammes of good Turkish opium successively with the above liquids, devoting about a week to this task. The results will, I hope, clearly show which direction should be followed, in order to promote our knowledge of opium. It is that part extracted by alcohol which contains the constituents not yet known, and upon which further researches, which I hope to institute, may probably throw some light.

The following numbers, calculated for 100 parts, were obtained. The opium yielded—

To benzol, .	10·83 =	4·50 narcotine and 6.33 caoutchouc, with traces of fatty matter.
" alcohol, .	57·67	representing about 20 per cent. of UNKNOWN BODIES.
" water, .	9.67	of mucilage.
" acetic acid,	1·73	salts, a little pectic acid and coloring matter.
" ammonia,	7·33	pectic acid, reddening litmus.

By incineration 10·38 per cent. were burnt (cellulose), leaving 2·39 ash; the whole amount of the ash in the drug under examination being equal to 5·32 per cent., when it was directly burnt.

100·00

I have observed that the pectic acid is not obtained immediately in a pure state; it appears to be always accompanied by some of the so-called humic bodies. Yet by dissolving it again in ammonia and precipitating by alcohol, it at last becomes nearly colorless and devoid of inorganic matter. It is always very difficult to powder; when heated, it evolves acid vapors, but in a less pure state it retains some albuminous matter yielding then ammoniacal vapors.

The purified pectic acid, when thoroughly boiled with water, partly forms a jelly, which at first is almost imperceptible, being perfectly colorless and transparent. Neutral acetate of lead somewhat thickens it, without any turbid appearance; an abundant precipitation takes place only on addition of ammonia.

The properties of pectic matters are known to be liable to some change; I found that sometimes the pectic acid is not immediately separated from the ammoniacal solution on addition of acetic acid, but requires the addition of alcohol.

I was curious to know whether pectin must be considered a constituent of the juice of the actual poppy-head or the capsule itself. An assay made with nearly ripe capsules showed that they do not contain any pectin—at least I could not obtain it in the same way as I did from opium. A very considerable proportion of pectin, however, (22 per cent.) has been found in poppy *seeds* by *Sacc.**

Mr. J. D. SMITH called attention to a very interesting specimen of English opium, collected about twenty years since by Sir Roger Martin, at Burnham Westgate, in Norfolk. Mr. Spencer, chemist, had kindly sent this for inspection. It was a mass weighing some pounds, and excited much admiration of its apparently excellent quality.—*Lond. Pharm. Jour., Oct.*, 1868.

* Annales de Chimie, et de Physique, xxvii. (1850) 473.

ON HONEY, ITS FORMATION AND CHANGES.

By W. W. Stoddart, F.G.S.

Honey and wax, the produce of the well-known insect (*Apis mellifica*), have been household words with the apothecary from time immemorial. That they are of importance to the modern pharmaceutist is evident from their being essential ingredients in no less than twenty-six preparations of our Pharmacopœia, to say nothing of the "thousand and one" uses in domestic life. The consumption in England is something enormous; besides what is gathered in this country, more than 450 tons are annually imported. It, then, becomes of some importance to the dispenser that he has a good and pure article, which I am sorry to say is not always the case. It is bad enough that a dishonest tradesman can find a cheap and adulterated stock ready at hand, but it is far worse when an honest tradesman has to keep all his wits about him to prevent the unconscious reception of a spurious substance.

For several years past the author has paid attention to the natural history and chemistry of honey, and has already published a few observations. As little is known on the subject, a continuance and confirmation of them will perhaps be thought worth recording.

On turning over the works on honey, you will find that not only do the authors contradict each other, but even sometimes themselves. Fownes, Turner, Gregory, and others state "that the solid part of honey is grape sugar," but tell us nothing of the liquid. Johnstone, in his "Chemistry of Common Life," says, "Both the solid and liquid portions have *the same general properties*, and that both are equally sweet." Dr. Hassall, in his work on "Food and its Adulterations," says "that the solid part of honey, when examined, shows myriads of regularly-formed crystals, *identical in form with cane sugar*." This probably is a misprint. The best account, though a brief one, is that in Dr. Attfield's "Pharmaceutical Chemistry."

The author's experiments serve to show that there are three principal sugars in the honey of the shops, varying their proportion according to age; and, as will be noticed further on, that

all these are derived from the decomposition of cane sugar, or sucrose ($C_{12}H_{22}O_{11}$).

Sucrose, when pure, forms very fine, large, oblique, rhombic prisms, and crystallizes in masses, as well seen in sugar candy. When the crystals are small, as for microscopic observation, they generally crystallize on their sides, when they appear as if the ends were truncated, and the edges at right angles to each other. This is simply owing to their position. A solution of sucrose always turns a ray of polarized light from left to right, and is therefore commonly called right-handed sugar. When acted upon by nitrogenous matter, as that in fresh honey, this crystallizable sucrose becomes partly changed into uncrystallizable sugar, or inverted sugar, because it turns a polarized ray of light from right to left.

Freshly gathered honey contains both of these, mixed with a third kind of sugar, especially when kept for a few weeks,—viz., glucose ($C_{12}H_{24}O_{12}$) or grape sugar.

Glucose is a crystalline substance, possessing about one-fourth the sweetening power of sucrose. It crystallizes in small tufts of thin prisms, pointed at both ends. The crystals, when formed for the microscope, always have *pointed* ends, instead of the *square* ones before mentioned, and owe this peculiarity simply to position also. This property is of great assistance to the microchemist when examining saccharine substances.

We will now pass on to the formation of honey as found in a newly-made comb. On examining the disk of many flowers, a number of glandular or scale-like bodies may be seen, abounding in a sweet liquid when the flower is at its height of beauty. Many plants, as the *Ranunculus* and *Fritillaria*, have a small glandular cavity at the base of the petals, filled with the same fluid, but not so plentifully as those on the disk. This fluid is commonly termed nectar, and therefore, in the older botanical works, the part of the flower supplying it was termed the nectary. This sweet fluid is a true sugar-syrup, eliminated from the amylaceous sap of the plant, and its office is probably to afford nourishment to the stamens and pistil. The so-called nectary serves the purpose of a reservoir for the superabundant fluid, and excites the instinct of the bees.

These singular insects choose many plants preferably to others, and, what is stranger still, a bee only attacks the same kind of flower in a garden at each visit, although surrounded by hundreds of others. This may be easily proved by examining a bee on its return to the hive, when the pollen will be seen to be all of one kind. The plants that have been noted as being the greatest favorites are—

Borago officinalis.	Echium vulgare.
Brassica campestris.	Thymus Serpyllum.
Colchicum autumnale.	Rubus Idæus.
Erica cinerea.	R. cæsius.
E. tetralix.	Rosa canina.
Cheiranthus Cheiri.	R. rubiginosa.
Althæa rosea.	R. arvensis.
Reseda lutea.	Sarothamnus scoparius.
Ribes Grossularia.	Melilotus officinalis.
Rosmarinus officinalis.	Cratægus Oxyacantha.
Tilia europæa.	Salix (various).
Corylus Avellana.	Polygonum.
Ribes nigrum.	Menyanthes trifoliata.
Ulex europæus.	Trifolium repens.
Lonicera Periclymenum.	T. pratense.

besides innumerable others.

The local flora has the greatest possible influence on the taste, color, and other qualities of the honey of the neighborhood. For instance, that from the sandy districts of Worcestershire and Salisbury Plain has a rich golden color, while that from Wales and the suburbs of Bristol has a dark, dirty-brown color, and coarse taste.

On examining the sap of many immature flowers, it was found to give a distinctly bluish color with iodine, showing the presence of starch. After the lapse of twenty-four hours, the sap was sweetish, and iodine now only gave a dirty greenish-brown color. The highest degree of sweetness was just when the flower fully expanded.

The next step was to find out what the sweet matter was. The part of the petal or disk, according to the flower, was sliced, macerated for a short time in a little cold distilled water. The

liquid was then heated with lime and carbonic acid, filtered, and evaporated *in vacuo* over sulphuric acid, on a glass slip.

Some of these results I have on the table before you. The crystals are from *Cheiranthus Cheiri*, *Lonicera Periclymenum*, *Trifolium pratense*, and *Rosa canina*. They are very difficult to separate, owing to the very rapid change into glucose by the chemical addition of a molecule of water. The angles are very decided, and measure 90° and 134·25°. They are very beautiful objects for the polarizing microscrope, and are most decidedly pure sucrose.

The bee, then, led by instinct to the favorite plants, inserts its ligula into the corolla, and laps up the sacchiferous liquid, and passes it into the honey sac. The ligula is not, as was once supposed, a hollow tube, through which a liquid may be sucked, but is a solid, flexile organ, covered with circlets of hairs. Like the palate of a mollusk, it is simply retracted into the mouth, and wiped, as it were, by the fauces.

While retained in the honey-bag, it receives the addition of an acid which possesses all the reactions of formic acid. It is probably this that causes the peculiar tingling sensation in the throat that is frequently experienced when much honey is eaten. The formic acid may perhaps be the result of the decomposition of the sugar, thus—

$$\underset{\text{Cane sugar.}}{C_{12}H_{22}O_{11}} + 14\,O = \underset{\text{Formic acid.}}{10(HCHO_2)} + 2\,CO_2 + H_2O.$$

On arriving at the hive, the bee deposits the contents of the honey-bag into the comb, where it remains till the stock is taken.

At this stage, honey is a clear, thick, yellowish liquid, having a sp. g. 1·423, and does not give a blue with tincture of iodine.

After collection, this honey gradually thickens, and deposits crystals, becoming rather opaque. A bit, placed under the microscope, will be seen to consist of a mass of regularly-formed crystals, floating in a clear liquid, and interspersed with pollen-granules. These crystals are those of dextro-glucose; they are very thin and transparent, and the measurement of their angles is 120°. They are evidently derived from the gradual decomposition of the sucrose.

This transformation proceeds from day to day till the honey

is a solid mass of crystals, and is then said to "set." After a time, say twelve months after being gathered, so much is changed into masses of glucose crystals that it "candies."

The glucose itself begins to ferment and form other compounds. The examination of a little under the microscope now shows tufts here and there of acicular four-sided prisms, which are the hexatomic alcohol, mannite.

$$\underset{\text{Grape sugar.}}{C_{12}H_{24}O_{12}} + H_4 = 2\underset{\text{Mannite.}}{(C_6H_{14}O_6)}.$$

Decomposition goes further still in very old or badly-kept honey; fermentation sets in, carbonic acid is given off, and alcohol, with acetic acid, will be distinctly perceived.

$$\underset{\text{Glucose.}}{C_{12}H_{24}O_{12}} = 4\,\underset{\text{Alcohol.}}{(C_2H_5HO)} + 4\,CO_2.$$

Then afterwards—

$$\underset{\text{Alcohol.}}{C_2H_5HO} + O_2 = \underset{\text{Acetic acid.}}{C_2H_4O_2} + H_2O.$$

The fluid part of old honey is lævulose, or left-handed glucose. It is uncrystallizable, and turns the polarized ray to the left instead of the right.

The pollen-grains may be easily separated for examination by dissolving a little honey in a few drops of distilled water put into a conical glass. They collect at the bottom, very little altered, and ready for transferring to the usual glass slip.

From all that has been said, therefore, honey is originally formed from a solution of cane sugar (sucrose), which gradually changes into grape sugar (glucose), and forming, as it proceeds, a small portion of mannite, formic acid, and alcohol.

The color and flavor are both due to, and derived from, the aroma of the flowers which the bees have visited.

Such ought honey to be; but, alas, like other things, the adulterator has found it a good field for his exertion. I have often examined specimens adulterated with pea- or bean-flour, turmeric, pipe-clay, brown sugar, treacle, gypsum, yellow ochre, fine sand, and water. (On the table were specimens of pipe-clay, yellow ochre, gypsum, and sand, that had been separated from honey bought in Bristol and London.)

Following are four analyses of samples that were actually bought and sold:

No. 1.		*No.* 3.	
Brown Sugar, . .	15·85	Honey, . .	94·9
Honey, . . .	84·15	Pipe-clay, . .	4·7
		Turmeric, . .	·4
	100·00		100·00
No. 2.		*No.* 4.	
Pea- or bean-flour, .	18·7	Sulphate of lime, .	6·3
Honey, . . .	68·8	Sugar, . .	12·5
Water, . . .	12·5	Honey, . .	81·2
	100·00		100·00

Sugar is easily detected by the microscope, for not only are the crystals easily distinguished, but generally the sugar-itch insects occur in the field of vision in great number, and in all stages of growth.

I believe, however, that a great deal of honey is imported from the Continent that is largely adulterated with starch-sugar; this being so nearly identical with the true glucose of honey itself, the imposture is almost impossible to prove satisfactorily.—*Lond. Pharm. Journ.*, Sept., 1868.

SIPHON MEDICINE GLASSES.

By Barnard S. Proctor.

There are probably few pharmaceutical fathers who have not felt that the system of choking medicine into a child was a barbarous and sometimes even a dangerous mode of overcoming the infant's repugnance to physic, and that the old-fashioned, covered medicine spoons were instruments of torture, the use of which should be punishable as a cruelty to animals. Such have been my feelings, and in the bringing up of four children I have repeatedly endeavored to devise some means of removing this disgrace upon the art of physic-taking. But I need not tell of my failures, but proceed at once to that which has been pronounced by mother, nurse and doctor to be worthy of general adoption.

The little fellow whose necessity was the mother of my present invention commenced life with an imperfect action of several of the viscera which more than once threatened his life, and rendered it necessary to have very frequent resort to the aid of medicine; but the convulsions and congested state of the lungs to which he was subject would at times make it a matter of some danger to give him either food or physic, for fear of a fit of choking putting a stop altogether to the process of respiration, which he already had a struggle to maintain. When at the worst, food and medicine alike had to be given by allowing him to suck them out of a cloth which had been dipped into them; the moisture being grateful to his parched mouth, no doubt made him willing to take whatever was given him in that way, and as he recovered the ability to take his food in the true infantile fashion, we gave him physic upon the same principle, trusting to the instinctive disposition to suck being sufficient to overcome his repugnance to the taste. The tube of a Gilbertson's feeding-bottle broken short and fitted into a cylindrical minim measure, was the form adopted for our first experiment, and it was with much satisfaction that we found whatever was given in this way was taken not only without difficulty, but often with positive eagerness. Rhubarb mixture and castor-oil were alike acceptable, if only offered when the stomach was empty. I have consequently had graduated glasses made of a suitable size and shape, and fitted with cork, tube, and teat, which it is scarcely necessary to describe more particularly. The following are the advantages of administration with this glass over the old plan of giving medicine with a cup and spoon:

1. The glass being accurately graduated, the dose may be measured with correctness and facility.

2. The medicine being in a deep vessel, is not liable to be spilled.

3. The glass being corked, the child does not smell the medicine, the odor of which, if given in the old way, will often produce a feeling of disgust before a drop has entered the mouth.

4. The medicine being conveyed to the back of the mouth through the tube and teat, it is less tasted.

5. The tube descending to the bottom of the glass, any heavy

materials are sucked up first, and made sure of, while by the old method they are apt to be left behind in the cup or spoon.

6. The act of sucking being instinctive, there is no choking nor sputtering, consequently no loss of medicine, nor uncertainty as to how much has been taken, and no soiling of the infant's or nurse's clothes.

7. A dose may be given to the infant while asleep, without its being roused, the application of the teat to its lips being generally sufficient to make it suck in its sleep.

It has been thought that adults should not be entirely excluded the benefits of anything which facilitates or felicitates the deglutition of drugs, for it is astonishing how many a man will behave himself like a baby when he has a dose of Gregory under his nose; nor yet is it to the weak-willed specimens of their species only that the adult's siphon medicine glass will commend itself. It is simply an acid tube fitted to a graduated glass of a deeper pattern than usual, and may be used with convenience and advantage wherever an acid tube is required.—*London Pharm. Journ.*, Sept., 1868.

ON THE PHYSIOLOGICAL ACTION OF PAPAVERINA.

Dr. Hofman, after taking two grains of the muriate of papaverin, remained awake fifteen hours, fell asleep at one A. M., and slept only five hours. From four grains remained awake fourteen hours, and then slept six and a half hours. From six grains experienced violent hiccough, which ceased in ten minutes; tongue became moderately coated, and had discomfort in stomach; half hour after dinner was attacked with severe pain in the forehead, without confusion of ideas, or debility, all of which passed off after a short walk; in fourteen hours he fell asleep and slept six hours. Felt perfectly well on the following and succeeding days. He then took six grains more, with only slight disturbance of the stomach. His pulse fell from eighty-eight to sixty-four, respiration from thirteen to eleven; his temperature remained about thirty-five or thirty-six degrees centigrade. He concluded that papaverin does not cause the slightest inclination to sleep, or relaxation of the muscles, and hence is

useless in sleeplessness, cramps, and convulsions. That it has no accumulative or secondary effects; that it does not act upon the senses like other narcotics. That it affects the pulse, respiration, and temperature, but slightly. It does not constipate, nor lesson nor prevent the secretion and excretion of urine, nor of the urates of chlorides.

He suggests that it may prove useful in some affections of the stomach and head when it is important not to run the risk of causing constipation or nausea; but that it is almost as useless as narcein.—*New York Medical Gazette*, Sept. 5, 1868, from *Wiener Med. Wochen*, July 18, 1868.

A TROPICAL AIR-PLANT.

By Charles Wright.

A wonderful tree—if a tree it can be called—grows throughout the West India Islands, in South America, as far south as Brazil, and perhaps in Florida. It is not remarkable for its beauty, nor its great size, but for its irresistible power of destroying other trees.

It is an epiphyte (*Clusia rosea* Linn.), perhaps a true parasite. Whether it ever germinates in the ground I know not; nor do I know why it should not, if it can sprout from a woodpecker's hole in a palm. Certain it is, that of hundreds which I have seen, I never saw a young plant attached to the soil. It grows on many kinds of trees, and at almost any height above the earth. In some situations it grows feebly. On a palm, it never or rarely attains to any considerable size; whether there is an incompatibility between the two growths, or whether, as is commonly the case on those trees, it germinates at two great a height. On the spreading branches of a tree it thrives better, but seems there to be not in its proper place. In any case, its main development is downward. When on a branch remote from the trunk, the descending axis—root or trunk, whichever it may be—is like a cord, increasing to the size of a rope, or a hawser, or growing even larger; rarely branching, but, sometimes, near the ground sending off stays. The ascending axis makes little more than a bush, while the root may be thirty or forty feet long.

In one respect, this is like a true root,—it branches irregularly,—while on the ascending trunk the leaves and branches are in pairs.

In order to attain its full development, it seems necessary that it should germinate at a point from which the descending axis shall pass in proximity to the trunk of the tree; and, it has seemed, that if this point be very high, it is a circumstance unfavorable to its rapid growth.

Supposing, then, our plant to start under favorable auspices, not very high above the ground, and from a hole or a fissure in an erect trunk, the ascending stem presents nothing of special interest, but the root, passing down near the foster-tree, is most singularly affected by it. It would seem as if possessed of a most grateful affection for that which gives it support; so much so, as to multiply arms with which to embrace it. It sends off, from time to time, at irregular distances, from one side or the other, slender, almost thread-like branches, which pass horizontally around the tree, till they meet on the opposite side and unite; or, it may be, if two should *not* meet, they would pass entirely round it and unite again with the main root. On this point I either made no careful observations, or my memory is at fault. Gradually the forest-tree is embraced by succession of these cords. But, by the same regular growth, these cords spread upward and downward, till they become hoops. And these hoops often send off branches from one to another; and these in their turn widen, till the tree is inclosed in a living cylinder or a cylindrical network of bands, having immense strength; and as these seem to increase only laterally, the growth of the tree is checked, and its destruction is inevitable sooner or later, according to its less or greater power of endurance.

A tree, on which the Copey has woven a pretty complete net, cannot long retain its vitality. Its circulation is stopped and it dies. But this *seems* not to check the growth of the destroyer, so long as the trunk remains erect. But when they both fall, the parasite cannot long survive. It would seem that it required either elevation or an erect position for its existence.

I can recall to mind but one instance of a Copey growing

from the ground, and it is probable that in this case the place whence it started was low, and it had time to reach the soil and fasten its roots there before the death and decay of its foster-parent.

Copey is, probably, the aboriginal or Carib name of the plant, which, like many others, has been retained. Scotch lawyer, or Scotch attorney, by which name it is known in Jamaica, is not altogether flattering to legal gentlemen of Caledonian extraction.—*American Naturalist, Sept.* 1868.

SPIRITUS ÆTHERIS NITROSI.

By J. W. Mill.

Spirit of Nitrous Ether—Sweet Spirit of Nitre—Its preparation on the Small Scale.

The history of this preparation has already been given in the London *Pharmaceutical Journal*, July, 1865, by Mr. Robert Warrington, and in the same journal, March, 1867, by Prof. Theophilus Redwood. Both articles were reprinted in the *American Journal of Pharmacy*, Vol. xxxvii., page 354, and Vol. xxxix., page 321; and to them the interested reader is referred.

The object of this paper is to give a formula and process adapted to the successful production of sweet spirit of nitre on the small scale. The preparation of this valuable remedial agent is confined almost entirely within the laboratory walls of the large manufacturing chemists. Hardly one pharmacist in a hundred ever dreams of preparing it himself; the great majority preferring to purchase this, as they do nearly all preparations, in fact, except the very simplest, at the hands of the large manufacturer; this method of keeping up stock being the easiest, and considered cheapest, attended with less trouble and responsibility. The writer, however, deprecates this growing disposition of the craft to surrender to the large manufacturer the preparations of its compounds. Such a course tends more and more to commercialize pharmacy, and if not checked, will soon make of it a *mere* trade, requiring for its successful prosecution a knowledge only of the rules and method of ordinary business.

As an offset to this growing tendency, the present paper is contributed; and it is hoped that some, particularly the younger, members of the profession, may be influenced by it to attempt the preparation of something higher than syrup squills or paregoric elixir.

Hyponitrous ether—an alcoholic solution of which, of definite strength, constitutes the officinal sweet spirit of nitre—is a product of the oxidation of alcohol by nitric acid, and is obtained by distilling a mixture, in certain proportions, of these two substances. Modern processes for the preparation of sweet spirit of nitre do not contemplate the preliminary and separate production of the ether, but obtain it more or less diluted from the beginning. In the experience of the writer, however, the separate production of the ether, and its subsequent dilution to the proper degree with alcohol, is the most correct process, and in fact the only one adapted for use on the small scale. This method is the one recommended by the Edinburgh Pharmacopœia of 1841, and also some years previously by Dr. Hare. The formulas, however, as given by these two authorities, are not practicable working formulas; Dr. Hare's, on account of the indefiniteness of its directions, and that of the Edinburg Pharmacopœia, on account of its requiring the use of a nitric acid having the specific gravity 1·5—a strength, practically unattainable, and moreover too great for the purpose, causing the reactions to take place with such violence as to be unmanageable. It is for this reason mainly, I presume, that the formula has been discarded; it is, nevertheless, the best that has yet been devised for the production of spirit nitrous ether on the small scale, and with certain modifications is perfectly manageable, and can be executed by any one who has been properly educated to his business.

The apparatus consists of a generating bottle—an ordinary pint salt-mouth shop bottle, capable of holding eighteen fluid-ounces (a smaller will not answer—a larger is not necessary); a water bath—an ordinary tin can, about the same height as the generating bottle, and an inch or inch and a quarter larger diameter, and having in the bottom two bits of wood on which the generating bottle rests, to prevent breakage by heat; a safety tube (a thermometer is instructive, but is not necessary);

a conducting tube; a Liebig's condenser, two and a half inches long, made of ordinary sheet tin, painted, to keep it from rusting—the internal tube of glass, three-quarters inch in diameter, and at its lower extremity drawn to a point, so as to enter the receiving bottle; an ordinary pint packing bottle; a reservoir of ice-water, fitted with a stop-cock; a retort stand; a lamp.

THE PROCESS.—No. 1. Take of Alcohol (sp. gr. 835) a sufficient quantity; stronger alcohol, eight fluidounces; nitric acid (sp. gr. 1·42), six fluidounces; carbonate of potassa, half a troy ounce. Or if nitric acid sp. gr. 1·42 can not be obtained, then take of—

No. 2. Alcohol (sp. gr. 853) a sufficient quantity; stronger alcohol, twenty-one fluidounces; commercial nitric acid (sp. gr. 1·36), seven fluidounces; carbonate of potassa, half a troy ounce.

Introduce into the generating bottle, *with a little clean sand*, thirteen fluidounces of alcohol, sp. pr. 835, if formula No. 1—stronger alcohol if formula No. 2 is used—and three fluidounces of the nitric acid. Having filled the safety tube with nitric acid, and otherwise properly adjusted the apparatus, apply heat. As soon as the reaction is fairly established, withdraw the water from the bath, and allow the reaction to proceed spontaneously, which it does to the end, care being taken to add the remainder of the acid through the safety tube in small portions, only, at a time, and at such intervals as to maintain the reaction in moderate activity. Distillation having ceased, remove the distillate (nearly ten fluidounces), and add to it first the carbonate of potassa, and then twice its volume of water. The mixture having been well shaken, by means of a separating funnel, separate the supernatant ether (about five fluidounces), and add to it eight fluidounces stronger alcohol, and sufficient alcohol (sp. gr. 835) to make the measure up to one hundred fluidounces, or to such a point that the finished product will correspond, in ethereal strength, to that indicated by the U. S. Pharmacopœia. Finally, preserve the spirit in well stopped bottles.

Although, as before stated, a thermometer is not necessary to the practical success of the operation, the observation of the thermometric changes occurring during the process is instructive,

and shows that the temperature at the commencement of the reaction is 170°, falling as soon as the reaction is in full activity to about 164°, in the vicinity of which it remains till near the close, when, simultaneous with the stopping of distillation, the temperature gradually rises to nearly 190°. The ether obtained by the above process has a sp. gr. at 56° of ·910, and usually amounts to very nearly five fluidounces; this, diluted as directed, has the sp. gr. ·837, and contains the percentage of ether required by the Pharmacopœia. It is as little affected by the liquor potassæ test as the *best* samples in the market; is equal to them in ever particular, and can be prepared at a less cost than the price asked for them. The process is easy of execution, and produces definite results; the apparatus is simple, compact and inexpensive, and not, with ordinary care, liable to fracture. With it the apothecary can readily prepare a sweet spirit of nitre that he can conscientiously dispense, and not be dependent on the market for his supply of this important remedy.—*The Pharmacist, Sept.*, 1868.

ON PURE WHITE GUTTA PERCHA.

By F. Baden Benger.

The demand for this substance, for dental purposes, is now sufficiently established to justify me in making a few remarks on it and its preparation. I have examined specimens of the so-called "pure white gutta percha" now commonly sold, and find that for the most part they may have been designated almost as correctly "pure white oxide of zinc," being made up with this substance in very large proportions, and I believe thereby rendered less tough, durable and fit for the purpose; this opinion has been strengthened by the fact that persons to whom the pure and afterwards the commercial article have been supplied, have frequently complained of the inefficiency of the latter. I am further induced to describe the process I use, by the very high price required by makers of the really pure substance.

A good sample of crude gutta percha will yield at least 75 per cent. of the pure resin. Some care should be taken to obtain a specimen with as little impurity as possible. The bottle marked

No. 1 contains some of the kind I find best; it is imported in roundish blocks, which are exceedingly hard and difficult to cut, but any of the large gutta percha manufacturers will supply the same torn into fragments similar to the accompanying specimen. Four ounces of this digested with five pounds of methylated chloroform for a few days, will form a solution sufficiently fluid to filter through ordinary bibulous paper; this should be conducted in such a manner as to allow little or no loss of chloroform by evaporation, the apparatus for filtering volatile liquids described in Mohr and Redwood's "Pharmacy" answering the purpose; the addition of another pound of chloroform rendering the filtration more expeditious. To the filtered solution, which should be bright and nearly colorless, add an equal bulk, or a sufficient quantity of spirit of wine to precipitate the gutta percha, which will separate from its solvent as a white bulky mass; this should be rinsed with spirit, pressed in a cloth, and dried by exposure to the air; its condition is then that of the accompanying specimen, marked "No. 2," perfectly white, but too porous for dental use; it should then be boiled for half an hour in a porcelain capsule and rolled in sticks whilst hot, as specimen "No. 3." The chloroform can now be separated from the spirit by the addition of water, and lastly the spirit from the water by distillation, at the leisure of the operator.

There is, therefore, no reason why the chemist should not prepare this substance himself, and if he is careful to prevent the loss of chloroform and spirit in the process, its reduced cost and greater purity will compensate him for the trouble.—*London Pharm. Journ.*, Sept., 1868.

NOTE ON THE DETECTION OF PHOSPHATE OF LIME IN SUBNITRATE OF BISMUTH.

By Dr. Redwood.

In a brief notice I gave, in the last number of this Journal, of the adulteration of subnitrate of bismuth with phosphate of lime, I alluded to a test recently published by Mr. Roussin. I am informed by Messrs. Howard and Sons, of Stratford, that they have found this test fallacious, as continued boiling causes a pre-

cipitate of bismuth itself when no phosphate is present. They suggest the following modification of the test, by which they say one-third of a grain of phosphate of lime is easily detected:

"To one part of the salt of bismuth dissolved in weak nitric acid add two parts of citric acid; dissolve with the aid of a little water; add an excess of solution of ammonia, and boil. Any phosphate present will be thrown down with continuous boiling of the solution."

Although absence from home prevents my adding my own experience on the subject, I am anxious, on the unquestionable authority of Messrs. Howard, at once to guard those who may have been induced to use Mr. Roussin's test against the erroneous conclusions to which it appears it may lead. In the cases referred to in my former note, I had obtained evidence of the adulteration indicated by other and perfectly trustworthy means before my attention was directed to Mr. Roussin's test.—*Lond. Pharm. Journ.*, Sept., 1868.

FACILITIES FOR DISPENSING MEDICINE.

By Henry Biroth.

The position held towards the public by the apothecary is an extremely difficult one. His qualifications entitle him to the first rank of society; but while the public expects that he should have all the qualifications necessary for the proper performance of his duties, it by no means extends to him commensurate praise. Courteousness and affability, conscientiousness and accuracy, are but a few of the qualifications that are demanded of the pharmacist. To fill his position to the general satisfaction he should be a model of talent and virtue. As the compounding of prescriptions is the true object of pharmacy, all other tasks and efforts being but expedients for attaining this end, it is requisite for the apothecary to possess cleverness and activity in preparing prescriptions. In appending the following, I therefore believe I can offer him some facilities which will prove both time- and labor-saving.

1. *A Solution of Sulphate of Quinine in Sulphuric Acid.*—Take of sulphate of quinine one ounce, mix with eight ounces

of water, then drop carefully into it concentrated sulphuric acid, and stir until the quinine is dissolved; then add sufficient water to make the whole measure ten fluidounces. Ten parts of this solution will represent one part of quinine.

A similar solution may be made with aromatic sulphuric acid.

2. *A Solution of Nitrate of Silver.**—The exact weighing of nitrate of silver in small quantities is very difficult, and takes up a great deal of time, which in dispensing is of great importance. The solution is made by dissolving an ounce of nitrate of silver in sufficient distilled water to make it measure ten fluidounces. This solution has to be kept in dark-colored bottles, to prevent its decomposition by light.

3. *A Solution of Chloride of Zinc.*—Chloride of zinc, being a deliquescent salt, will soon become unfit for weighing by using it often. The solution is made in the same way as the above, by dissolving one ounce of chloride of zinc in sufficient distilled water to make it measure ten fluidounces.

4. *A Mixture of Strychnia with Sugar.*—This is an important mixture, as strychnia can not be too carefully handled. Doses of one-twelfth, one-eighth or one-quarter of a grain can not be weighed with as much accuracy as when mixed with sugar; the lightest breeze of air often affecting the correctness of the scale. One drachm of strychnia mixed with sufficient white sugar to make the whole weigh twelve drachms, is a convenient mixture in most all cases where small portions of strychnia are prescribed.

* [The propriety of this recommendation for nitrate of silver, may be doubted—except in those cases where the demand is very frequent. With the utmost care it will be difficult to prevent access of organic matter, and the salt is so easily dissolved that a mortar is not needed.

The strychnia mixture is another instance of doubtful propriety as a standard preparation. Less than half a grain is rarely prescribed, and the care required in weighing it is a salutary accompaniment of the dispensing of so potent an agent. The objection is mainly in the increased liability to accident by complicating the process of dispensing. Strychnia, atropia and other powerful alkaloids should be each kept in a single receptacle—plainly marked—and when dispensed they deserve to receive the time and care needful to measure them carefully. W. P. Jr.]

5. Similar mixtures as the above can be mad e with morphia, opium, and tartar emetic. The proportions may be made the same, or smaller.

6. *A Concentrated Solution of Gum Arabic.*—Instead of using the powdered gum arabic wherever prescribed in liquids, it is better to use a solution of the gum in proportion 1 : 2; with this the medicine will always look nice and clean, and emulsions made with it will be elegant.

7. In a good many instances the dispensing druggists will avoid straining mixtures, by keeping solutions in the proportion of 1 : 2 of the following salts: Ammoniæ murias, magnesia sulphas, potassæ nitras, soda sulphis.

8. Very practicable are solutions of several narcotic extracts, for example: Extractum hyoscyami, extractum aconiti, extractum belladonnæ, extractum opii. As these extracts are often used in ointments, their solutions have to be concentrated 1 : 2, and as they are liable to decompose when dissolved in water alone, an addition of alcohol is necessary; glycerin is also a good solvent for them.

9. Misturæ cretæ is a preparation which only should be made extemporaneously. For this purpose, the dry mixture may be kept ready according to the Pharmacopœia, *i. e.:* ℞ Cretæ præparatæ, two parts; sacchari albi; pulvis acaciæ aa one part, mix. One drachm of this with half an ounce each of water and cinnamon water will make one ounce of chalk mixture.

10. We can not always get fresh lard, and as long as our unguentum simplex is directed to be made with white wax—an already rancid body—it happens very often that an ointment of iodide of potassium gets yellow, instead of being perfectly white. A few grains of hyposulphite of soda dissolved in a little water, added to such ointment, will turn it snow white.

11. Acetate of lead will change partly into carbonate of lead by the carbonic acid of the atmosphere or of the water; therefore solutions of it will always have a milky appearance. In all cases where it is prescribed for internal use, the precipitated carbonate of lead should be redissolved with a few drops of acetic acid, and the solution will be clear.

12. It is very important in cases of poisoning to prepare a freshly precipitated hydrated oxide of iron. This should be done in the shortest time possible; therefore the necessary ingredients have to be kept ready separately in their respective proportions, that is: Solution of tersulphate of iron, four ounces; aqua ammoniæ sufficient quantity. The precipitation is made according to the U. S. Pharmacopœia, strained, pressed firmly with the hands, and then mixed with sufficient water to make it measure six ounces. The sulphate of ammonia partly remaining in the precipitate, does not interfere with the effect of the antidote.

All these preparations should be labelled in a proper way, so that no mistake in using them may ever occur.—*The Pharmacist, Sept.*, 1868.

ADULTERATION OF MEDICINES.

By F. Mahla, PH.D.

"There is no species of fraud so universal as that which, prompted by a sordid desire after" filthy lucre, "cheats mankind out of life and health."

Such was the expression of a writer who, more than a score and a half of years ago, published "Notes on Falsifications and Adulterations," hoping thus to prevent the sale of impure drugs and medicaments.

Any one examining the present condition of the drug market will readily come to the conclusion that the attempts to falsify and adulterate have since then rather increased; for it has become almost as difficult to procure reliable medicines as it is impossible to discover the philosopher's stone. Under these circumstances, it is a duty to expose such frauds, in order to enable those who are interrested, to protect themselves against them. With this view, I propose to publish from time to time in these columns, such adulterations as have come to my notice in the Chicago drug market. I am convinced the honest druggist, who strives to offer nothing but reliable goods to the public, and the physician who naturally expects certain results from rationally prescribed medicines, will assist me in my efforts.

Epsom Salts.—There is a large quantity of a spurious article in the market, which is nothing more than finely crystallized glauber salt. It does not contain a trace of sulphate of magnesia. It may be recognized by the circumstance that it is perfectly free from bitterness to the taste, and that its aqueous solution produces no precipitate on adding first phosphate of soda and afterward aqua ammonia.

Sal Rochelle.—An article purporting to be sal rochelle is now offered for sale, which contains at least 25 per cent. of sulphate of soda. This can be discovered by adding to a somewhat dilute solution of the suspicious salt a few drops of a solution of either nitrate of baryta or chloride of barium, and afterward c. p. nitric acid. The precipitate produced by the baryta salt must disappear on the admixture of the nitric acid if the salt is pure.

Vienna Glycerin.—I had occasion to examine this really beautiful-looking article, and found it contaminated with sulphate of lime (gypsum) and chloride of sodium (salt). It contained also considerable quantities of sugar.

The presence of the sulphuric acid of the gypsum can easily be made manifest, by adding to one sample a few drops of a baryta salt solution, and afterwards diluted nitric acid; that of the lime, by admixing to another sample a solution of oxalate of ammonia. The chlorine of the salt is discovered by the appearance of a white precipitate on the addition of nitrate of silver solution.

It is a little more difficult to demonstrate the fradulent admixture of sugar. In order to do so, it is necessary to add about fifteen or twenty drops of diluted sulphuric acid to two or three drachms of the glycerin, previously diluted with its own bulk of water. This mixture is boiled over the spirit lamp for several minutes, when it is allowed to cool down. It is then mixed with a few drops of a solution of sulphate of copper, and as much caustic potassa (liquor potassa) as is necessary to redissolve the blue precipitate which at first made its appearance. The whole is then gently heated over the spirit lamp, when a copious brick-red deposit of suboxide of copper is thrown down. Pure glycerin will, under such treatment, not produce these phenomena.

Black Sulphuret of Antimony.—A quantity of powdered black sulphuret of antimony, purchased from one of our wholesale houses, was boiled with hydrochloric acid, in order to prepare the officinal "solutio antimonii terchloridi" (butter of antimony.) It was but incompletely acted on, and the solution after cooling, was filled with numerous crystals, which on examination were recognized as chloride of lead. A portion of the black residue not taken up by the hydrochloric acid was also examined; it consisted mainly of sulphuret of lead (galena.)—*The Pharmacist, Sept.*, 1868.

ON THE EXTRACTION OF OIL BY MEANS OF SULPHIDE OF CARBON.

By M. Heyl.

A new and interesting process for the extraction of oil by means of sulphide of carbon is carried out on a large scale at the manufactory of M. E. O. Heyl, at Moabit, near Berlin.

With respect to this method, the annals of Prussian agriculture contain details which we now transcribe. An oil of sufficiently good quality for successful employment in the lubrication of machinery, is manufactured at Moabit at the daily rate of 2·570 kilogrammes; its residue forming an excellent food for cattle. When more or less finely ground, the latter may be sent off in sacks, and requires no pulverisation before being mixed with hard or soft water, but may be given to the animals at once, thus having an advantage over oil-cake. The oleaginous grain, such as colza, linseed, or mustard, arrives in ships by the Spree, and is raised into the wharehouse by a perpetual screw, which every day draws up into the manufactory the necessary quantity for the work (about 33 hectolitres). It is then placed by a lift upon a seive comprising a winnower, and thence falls, perfectly clean, into a triturator, the movements of whose cylinders are combined in such a way as to tear rather than bruise it.

After this preparation, the grain passes into a revolving cylinder of sheet iron, about 0·418 m. in diameter, and heated from below, whence it falls after desiccation into eight large vats, each holding 8·78 hectolitres, and capable of revolving on two horizontal axles.

After having carefully closed the vats with covers, the sulphide of carbon is conducted into them from a higher reservoir; about 7000 kilos. being required for the daily manufacture, of which, however, only 28 kilos. are lost, that is to say about ·4 per cent. From the bottom of the vat, the solution of oil in the sulphide of carbon trickles out in a thread-like manner, and becomes clearer, until at last the sulphide runs quite pure. This indicates the precise moment when the seed is completely deprived of oil, and steam is then substituted for the sulphide, of which it entirely removes all traces.

The vats are now uncovered and reversed, in order to eject the exhausted matter, which is taken up by the lifts and passed successively through three mill-hoppers heated by steam; lastly, it is again ground, when it forms an alimentary powder, containing 5·3 per cent. of nitrogen, and saleable at 15·15 francs the hundred kilos. The mixture of oil and sulphide of carbon extracted from the vat washings is purified with steam, distilled twice, and cooled in three large worms passed through refrigerators. It is then rectified, which renders it capable of employment in new operations, after being restored to the original reservoir. The trade price of sulphide of carbon is from 0·79 fr. to 0·85 fr. the kilogramme, but costs the manufactory of Moabit rather less, as it is made on the premises. The oil thus obtained is sold as lamp oil after being deprived of color; and by submitting it to a chemical process, a superior oil for purposes of lubrication is produced, possessing the advantage of being and remaining extremely fluid. Another oil is also manufactured, specially adapted to the lubrication of railway-carriage axles, inspissating at a very low temperature only. Four large wrought-iron reservoirs of 7·416 cubic metres each hold large quantities of oil, and a steam-engine of 12-horse power, with two boilers and a pressure of two atmospheres, give all the power and steam necessary for operation, transport, &c. The daily fabrication of 2·570 kilos. only requires the work of six men; and the careful analyses of MM. Birner, of Regenwalde, and Karsten, of Kiel, could only find in the residue 2 per cent. of oil and 7 per cent. of water, whilst in the residue from the common method of pressing, 9 per cent. of oil and 15 per cent. of water were discovered.

The question has been much discussed as to whether colza oil-cake be a beneficial food for cattle; it depends on the object in view. The experience of M. Strengeld, of Tharand, proves that when cattle are young and have not attained their full growth, the colza oil-cake is advantageous, as the growth of animals requires food richer in nitrogen and phosphoric acid than in fatty matter; it is also beneficial to milch cows. For fattening cattle, aliments richer in fatty matter are preferable. These remarks will explain the contradictory opinions held by different agriculturists.—*Chem. News*, August 21, 1868, from (*Preussische Annalen der Landwirthschaft.*)

NOTE ON SHERRY WINE.

When treating last year of Port, it will be remembered that we drew special attention to the prevalent custom of over-fortifying, and our observations called forth such confident denials and out-spoken resentment, that we felt constrained to give copious quotations from official reports in confirmation of the conclusions at which we had arrived. These conclusions are, we may fairly boast, now undeniable, and we are confident that what we have to say now upon sherry will be hereafter recognized as equally authoritative.

Yet, as there are plenty of captious persons abroad who know not to what our experiments tend, and are more deferential to authority of a different kind, we shall precede our own statements by those of an official sent to investigate the wines of Spain and Portugal, and to whom we have before had occasion to refer. We allude to Mr. Charles Bernard, assistant-surgeon at H. M. Customs, whose accuracy has never been impugned, and from whom we extract the following paragraphs, which contain a just estimate of the matter up to the time of our taking up the inquiry;—

"The large shippers and vineyard proprietors of Spain and Portugal are, and have been for a long period of time, manufacturers rather than simple producers of wine. The practice said to be followed in other countries, of merely watching and aiding nature in the development of fermentation, has here

superadded to it a system of mixing and fortifying that tends to produce an intoxicating rather than a purely exhilarating beverage.

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"An opinion seems generally prevalent among the growers and shippers that natural wines will not maintain themselves sound unless assisted by the addition of distilled spirit. Even to some extent, where it is not the practice to add spirit to the 'must,' as in the case of the Montilla, Val-de-penas, &c., it is usual, and considered necessary, before the wines are made up for exportation, to add spirit to a greater or less amount. I am not prepared to endorse this statement fully.

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"It may be as well to give here a resumé of the general practice in the Xeres districts of preparing wines.

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"No spirit is added to the 'must' during the process of manufacture or pressing the grape at the vineyard, unless it is intended to be made 'sweet wine,' and then six arobas (equal to about twenty-one gallons of spirit, about 60 per cent. over proof) are added, in order to prevent fermentation, and to retain its sweetness; and when this sweet wine is drawn off the lees, about six months after it is made, three or four gallons more spirit are added, making in all between twenty-four and twenty-five gallons spirit to the butt. The sweet wine is not usually exported, but is used for the preparation of other wines intended for the English market, and is added to other wines to give body, flavor, and strength, in such proportion as is deemed necessary according to the style and taste required.

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"The wines intended for white dry wines, and eventually to be made up into what is known in England as 'sherry,' have about two gallons of spirit added to the butt when drawn off the lees in the month of March or April following the vintage, and during the rearing of them further small quantities, from time to time, as required. These wines selected for vino fino, Amontillado, and Manzanilla, in lieu of having spirit added to them, are thrown on to Soleras; or fine old mother wines which, by age, care, and attention, have acquired a body and character,

and which are used in mixing with other wines, to improve them. The stocks of Soleras are always kept up in the following manner:—

Say 20 butts, 1841; half drawn off for use.
20 butts, 1842; half thrown into 1841.
20 butts, 1843; half thrown into 1842.

And so on from year to year, the younger wine being thrown on to the wine of the year previous.

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"Notwithstanding the quantity of spirit (two gallons) used in rearing wine (not Amontillado, vino fino, and Manzanilla) it is usual, when it is made up into sherry for England, to add at the time of using it, from two to four gallons more spirit, according to the quality and age of the wine. There is, however, no standard sherry made up, and no regulated quantity of spirit used, as that depends both on the character desired by the purchaser, and (a most important consideration) on what the wine itself requires.

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"A butt of sherry for England is made up in 40 jars in various proportions; thus, for example:—

1 Jar, spirit, about 60 over proof.
8 Jars, of the sweet wine or dulce.
7 Jars, soleras, or mother wine.
10 Jars, dry wine, 1854.
14 Jars, dry wine, 1859.

40

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"The Amontillado is entirely a chance wine, that is, it cannot be made as a matter of course, or reckoned upon with any certainty, insomuch as out of 50 butts of wine made at the same vineyard, under the same circumstances and with the same kind of grapes, probably only two or three will turn out to be wine of this character. No reason, however, can be assigned for its partaking of the peculiar flavor, &c., of Montilla wine, from which it derives its name.

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"When the wines are classified in the spring, those which

from their taste and style are likely to turn out Amontillado and vino fino are marked in a certain manner, put aside, and are carefully watched and reared, but it does not unfrequently happen that, after the selection, they fall off, and become sick and out of order, when they are treated in the same way as other ordinary white wines, and spirit is added in the proportion deemed requisite to secure them from spoiling; should the wine, however, not recover under this treatment, and acetic fermentation supervene, it is then sent for distillation into brandy.

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"The wine of Benicarlo intended for exportation is fortified to the extent of five gallons per pipe, though two and a half gallons would be considered sufficient to preserve it for home use. Here, again, but little stock is kept on hand, each year's produce being generally sold for exportation, or consumed by the time the new wine is made; and it was impossible to procure samples of natural wine of former vintages."—*From Med. Press and Circular—Dublin, Aug.* 26, 1868.

MITCHELLA REPENS, L., A DIŒCIOUS PLANT.

By Thomas Meehan.

A few weeks ago I had the honor of pointing out to the members of the Academy that *Epigæa repens* was a diœcious plant. I have now to report a like discovery in *Mitchella repens*.

In the case of *Epigæa* I had to indicate the polymorphism accompanying the divisions of the sexes, as part of the discovery; in the present instance Dr. Asa Gray is before me in noting the distinct appearances; the originality of my own observation lies merely in giving the meaning of the facts already recorded. In the last (5th) edition of Gray's Manual, speaking of *Mitchella*, the author says, "Flowers occasionally 3—6, merous, always dimorphous, all those of some individuals having exserted stamens and included stigmas,—of others included stamens and exserted style." Although this statement expresses the appearance, it is not strictly accurate; for the pistil in the one case is not perfect, and in the other the anthers are mere rudiments, without a trace of pollen in any that I have examined. The two forms are truly male and female plants.

In the female plant the pistil, with its well-developed stigma, projects one-eighth of an inch beyond the throat of the corolla. The small rudimentary anthers are sessile, and hidden among the coarse down of the corolla tube, so as not to be seen without dissection.

In the male plant it is the rudimentary pistil which is confined in the villous tube, far out of reach of pollen influence, if even it were perfectly developed. On the other hand, the anthers are borne on filaments which are free from the corolla for one-eighth of an inch, and projecting that much beyond the corolla throat.

In the case of *Epigæa* I had to correct many variations in the form and proportions of the floral parts. *Mitchella* is as remarkable for uniformity; except that the calyx teeth in the male are coarser than in the female, there is little variation from one type. Dr. Gray observes that the lobes of the corolla vary from three to four, five, and six. I may add that five-lobed corollas are common, and these are usually accompanied by five anthers.

The number of male plants is about equal to the female; occasionally plants of the separate sexes intermix. I, and probably others, have often noticed in the fall some patches bearing abundantly, other patches without a berry. The facts I now offer afford the solution.

In reference to *Mitchella*, it may not be out of place to correct an error in Lindley's "Vegetable Kingdom." The learned author includes in his natural order Cinchonaceæ *Mitchella*, *Cephalanthus*, *Diodia*, *Oldenlandia* and *Spermacoce*,—all high northern plants; and yet, when speaking of the geography of the order, writes that "the most northern species in America is *Pinckneya pubens*, inhabiting the Southern States of North America."—*Proc. Philad. Acad. Nat. Sci.*, July, 1868.

ON THE ADULTERATION OF ANNATTO.

By W. Laird, PH. C., Dundee.

The Conference meeting this year in the chief city of a great agricultural district will, I hope, be held as a sufficient reason for my bringing under notice a subject not strictly pharmaceutical, but rather agricultural, *i. e.* adulteration of annatto. I have

heard that there is a saying in some parts of England, that "annatto now-a-days won't dye." I don't wonder at it, if the sample before me is anything like a fair sample of what is usually supplied to the trade. We are told "annatto is obtained from the seeds of *Bixa Orellana;* is imported into Europe in cakes and usually made up in England into rolls before sale;" we are further told that "the best annatto is known as roll annatto." This sample, when received about two years ago, was labelled "roll annatto," and seemed what its name implied, good, of a beautiful deep orange color, and pliable, something like a well beaten pill-mass. In my unsuspicious ignorance I thought it of first-rate quality. A short time after, on having occasion to sell some, I found it studded with minute crystals of salt, but, being busy, paid no attention to them, till some time afterwards I found that the crystals had largely increased in size and number. I supposed the salt had been added to help keep it moist, or it might be to increase weight and profit. I thought, however, that this was at least a safe if not a necessary adulteration. As time went on my beautiful annatto began to lose its rich color and softness, becoming shrunk, hard and mottled, like a piece of brick made of badly cleaned clay. Being now thoroughly convinced of the roguery of some one, I was desirous of knowing to what extent and how it had been adulterated. I weighed out a hundred grains from a thin section of one of the rolls, digested it for twenty-four hours in two or three ounces of spirits of wine, boiled the residue in two ounces more, then put it into a percolator, passed spirit through it till it came off colorless, finishing off with ether, which also came through colorless, thus making sure of having thoroughly exhausted it of the "orelline;" on drying and weighing the residue I found it to be about 85 grains, a pretty fair percentage. On boiling a small portion in water, cooling, and testing with iodine, it gave the blue starch reaction very strongly. Under the microscope it looks like what is sold for "lintseed meal," mixed with minute portions of an emerald green substance.

These results are not before the meeting with that exactitude I should have liked, but they are sufficient to show that roll annatto, as supplied to the trade, instead of being the best

annatto, is merely a paste of farina and salt, colored with about fifteen per cent. of annatto.

It may be that the merchants are not able to sell it pure at the price charged, 1*s.* 4*d.* per lb. Let them give it pure and charge a fair price, whatever it may be; the honest dealer will not refuse it.

Mr. J. D. Smith said that the members of the Conference from a distance would do a practical service to chemists in the country if they could tell them were to get good annatto. They could hardly sell a pound of annatto now-a-days without having it returned as being adulterated. They would be glad to sell pure annatto if they could get it.

The President said that annatto was no longer grown in the British West Indies, but he thought he might say that the whole came from the French colony of Cayenne, and it certainly was grossly adulterated. He was glad to know that there was a possibility of its being grown in English colonies, as a specimen prepared in Guiana had been sent to him, and most favorably reported on by a London importer who had seen it.

Mr. Evans called attention to the fact that one sort of annatto was used for butter and another for cheese. What was usually sold was certainly "a villainous compound." He had reason to believe that attention was being given to the reintroduction of the manufacture in the British West Indies.

Professor Attfield said that no better illustration could be given of the use of their discussions than the present. A crying evil, felt by the trade throughout the country, had been now exposed, and the many thousands of reports of this discussion which would be circulated throughout Europe and the colonies would tell those who could produce a pure article that they would find a ready market in England.

—*London Pharm. Journ., Sept.*, 1868.

RECTIFYING ALCOHOL BY MEANS OF GELATIN.

Whilst witnessing the manipulations of the Eburneum process in the studio of Mr. Burgess, at Norwich, Mr. Burgess mentioned a curious circumstance. When the gelatin and pigment forming the layer of eburneum is quite dry, it is coated with collodion to render it impervious to moisture. This operation he noticed always rendered the eburneum soft and limp, so that it required placing in the drying-box again. The greediness of the gelatin for moisture causes it to absorb the trace of water in the sol-

vents of the collodion, and so become damp. This suggested to us a possible use for rectifying small quantities of alcohol, or removing water from collodion in which the use of imperfectly-rectified solvents has caused a tendency to give crapy films. Place a little pure gelatin in the spirit to be rectified. There is no danger of any portion of it dissolving, but it will absorb the water and gradually swell; it may then be removed, carrying the water with it. This will be found more convenient than the plan sometimes recommended of agitating with carbonate of potash, and after subsidence decanting.—*Chem. News, Sept.* 11, 1868, *from Photographic News.*

HARD AND UNYIELDING CEMENTS.

By M. Schwartze.

To four or five parts of clay, thoroughly dried and pulverized, add two parts of fine iron filings free from oxide, one part of peroxide of manganese, one-half of sea salt, and one-half of borax. Mingle thoroughly and render as fine as possible; then reduce to a thick paste with the necessary quantity of water, mixing thoroughly well. It must be used immediately. After application it should be exposed to warmth, gradually increasing almost to white heat. This cement is very hard, and presents complete resistance alike to red heat and boiling water.

Another Cement.—To equal parts of sifted peroxide of manganese and well pulverized zinc white, add a sufficient quantity of commercial soluble glass to form a thin paste. This mixture, when used immediately, forms a cement quite equal in hardness and resistance to that obtained by the first method.—*Chemical News, Sept.* 18, 1868, *from* (*Blätter für Gewerbe*).

EXTRACT FROM DR. HOOKER'S ADDRESS TO THE BRITISH ASSOCIATION AT NORWICH, 1868.

In this most unreliable of sciences—Fossil Botany—we do but grope in the dark; of the thousands of objects we stumble against, we here and there recognize a likeness to what we have elsewhere known, and rely on external similitude for a helping hand to its affinities; of the great majority of specimens we

know nothing for certain, and of no small proportion we are utterly ignorant.

If, however, much is uncertain, all is not so, and the science has of late made sure and steady progress, and developed really grand results. Heer's labors on the miocene and pliocene floras especially are of the highest value and interest; his conclusions regarding the flower of the Bovey Tracy coal beds (for the publication of which, in a form worthy of their value and of their author's merit, we are indebted to the wise liberality of Miss Burdett Coutts) are founded on a sufficient number of absolute determinations; and his more recent *Flora Fossilis Arctica* threatens to create a revolution in Tertiary Geology. In this latter work, Prof. Heer shows, on apparently unassailable evidence, that forests of Austrian, American, and Asiatic trees flourished during miocene times in Iceland, Arctic Greenland, Spitzbergen, and the Polar American Islands, in latitudes where such trees could not now exist under any conceivable conditions or positions of land, or sea, or ice, and leaving little doubt but that an arboreous vegetation once extended to the Pole itself. Discoveries such as these appear at first actually to retard the progress of science, by confounding all previous geological reasoning as to the climate and condition of the globe during the tertiary epoch.

I have said that the greatest botanical discoveries made during the last ten years have been physiological, and I here alluded especially to the series of papers on the "Fertilization of Plants," which we owe to Mr. Darwin. You are aware that this distinguished naturalist, after accumulating stores of facts in Geology and Zoology during his circumnavigation of the globe with Captain Fitzroy, espoused the doctrine of the continuous evolution of life, and by applying to it the principles of natural selection, evolved his theory of the origin of species. Instead of publishing these views as soon as conceived, he devoted twenty more years to further observation, study, and experiment, with the view of maturing or subverting them. Amongst the subjects requiring elucidation or verification were many that appertained to Botany, but which had been overlooked or misunderstood by botanical writers, and these he set himself to examine vigorously.

The first fruits of his labors was his volume on the "Fertilization of Orchids," undertaken to show that the same plant is never continuously fertilized by its own pollen, and that there are special provisions to favor the crossing of individuals. As his study of the British species advanced, he became so interested in the number, variety, and complexity of the contrivances he met with, that he extended his survey to the whole family, and the result is a work of which it is not too much to say that it has thrown more light upon the structure and functions of the floral organs of this immense and anomalous family of plants than had been shed by the labors of all previous botanical writers. It has, further, opened up entirely new fields of research, and discovered new and important principles that apply to the whole vegetable kingdom.

This was followed by his paper on the two well-known forms of the primrose and cowslip,* popularly known as the pin-eyed and the thrum-eyed; these forms he showed to be sexual and complementary; their diverse functions being to secure, by their mutual action, full fertilization, which he proved could only take place through insect agency. In this paper he established the existence of homomorphic, or legitimate and heteromorphic, or illegitimate unions amongst plants, and details some curious observations in the structure of the pollen. The results of this, perhaps more than any other of Mr. Darwin's papers, took botanists by surprise; the plants being so familiar, their two forms of flower so well known to every intelligent observer, and his explanation so simple. In myself I felt that my botanical knowledge of these homely plants had been but little deeper than Peter Bell's, to whom

> A primrose by the river's brim
> A yellow primrose was to him,
> And,—it was nothing more.

Analogous observations on the dimorphism of flax-flowers and their allies,† formed the subsequent paper, during which he made the wonderful discovery that the common flax, the pollen of one form of flower, is absolutely impotent when applied to its own

* Journal of the Linnean Society, vol. vi, p. 77.
† Journal of the Linnean Society, vol. vii, p. 69.

stigma, but invariably potent when applied to the stigma of the other form of flower; and yet both pollens and stigmas of the two kinds are utterly undistinguishable under the highest powers of the microscope.

His third investigation is a very long and laborious one on the common loose-strife,* (Lythrum salicaria), which he showed to be trimorphic, this one species having three kinds of flowers, all annually abundantly produced, and as different as if they belonged to different species; each flower has, further, three kinds of stamens, differing in form and function. We have in this plant, then, six kinds of pollen, of which five at least are essential to complete fertility, and three distinct forms of style. To prove these various differences, and that the co-adaptation of all these stamens and pistils was essential to complete fertility, Mr. Darwin had to institute eighteen sets of observations, each consisting of twelve experiments, 216 in all. Of the labor, care and delicacy required.to guard such experiments against the possibility of error, those alone can tell who know experimentally how difficult it is to hybridize a large flowered plant of simple form and structure. The results in this case, and in those of a number of allied plants experimented on at the same time, is what the author's sagacity predicted; the *rationale* of the whole was demonstrated, and he finally showed, not only how nature might operate in bringing these complicated modifications into harmonious operation, but how through insect agency she does do this, and why she does it too.

It is impossible even to enumerate here the many important generalizations that have flowed from these and other papers of Mr. Darwin's on the fertilization of plants; some that appear to be common-place at first are really the most subtle, and, like many other apparent common-places, are what, somehow, never occur to common-place minds: as, for instance, that all plants with conspicuously colored flowers, or powerful odors, or honeyed secretions, are fertilized by insects; all with inconspicuous flowers, and especially such as have pendulous anthers, or incoherent pollen, are fertilized by the wind; from whence he infers that,

* Linnean Transactions., vol. viii, p. 169.

before honey-feeding insects existed, the vegetation of our globe could not have been ornamented with bright-colored flowers, but consisted of such plants as pines, oaks, grasses, nettles, &c.

The only other botanical paper of Mr. Darwin's to which I can especially allude, is that "On the Habits and Movements of Climbing Plants,"* which is a most elaborate investigation into the structure, modification, and functions of the various organs by which plants climb, twine, and attract themselves to foreign objects. In this he reviews every family in the vegetable kingdom, and every organ used by any plant for the above purpose. The result places the whole subject in a totally new light before us. The guesses, crude observations, and abortive experiments that had disfigured the writings of previous observers are swept away; organs, structures, and functions of which botanists had no previous knowledge are revealed to them, and the whole investigation is made as clear as it is interesting and instructive.

The value of these discoveries, which add whole chapters to the principles of Botany, is not theoretical only; already the horticulturalist and agriculturalist have begun to ponder over them, and to recognize in the failure of certain crops the operation of laws that Mr. Darwin first laid down. What Faraday's discoveries are to telegraphy Mr. Darwin's will assuredly prove to rural economy, in its widest sense and most extended application.

Another instance of successful experiment in Physiological Botany is Mr. Herbert Spencer's observations on the circulation of the sap and formation of wood in plants.† As is well known, the tissues of our herbs, shrubs, and trees, from the tips of their roots to those of their petals and pistils, are permeated by tubular vessels. The functions of these have been hotly disputed, some physiologists affirming that they convey air, others fluids, others gases, and still others assigning to them far-fetched uses of a wholly different nature. By a series of admirably contrived and conducted experiments, Mr. Spencer has not only shown that these vessels are charged at certain seasons of the year with fluid, but that they are intimately connected with the formation

* "Linnean Transactions," vol. ix, p. 1.
† Ibid., vol. xxv, p. 405.

of wood. He further investigates the nature of the special tissues concerned in this operation, and shows not merely how they may act, but to a great extent how they do act. As this paper will, I believe, be specially alluded to by the President of the Biological Section, I need dwell no further on it here than to quote it as an example of what may be done by an acute observer and experimentalist, versed in physics and chemistry, but above all thoroughly instructed in scientific methods.—*Lond. Chem. News*, Aug. 21, 1868.

NOTE ON A BLACKISH-GREEN INSECT-WAX.

By R. Reynolds, F.C.S.

Attention has been called to a variety of black wax by the paper lately published by Dr. Smith.* Unfortunately no history of Dr. Smith's specimen can be given, and it may fairly be doubted whether it is an animal or a vegetable product. In the instance which I now bring before the Conference there is sufficiently clear evidence of the source of the wax. I received the specimen directly from the discoverer, who tells me that he brought it from one of the group of islands in the Pacific Ocean, known as the Line Islands. The natives of these islands are a highly savage race, and but little intercourse with Europeans takes place. There are two specimens, the first being a mass weighing several ounces, just as taken from the stump of a tree. The insect producing the wax is said by my informant to be about the size of a small house-fly. There is little trace of structure to be detected, heat seeming to have destroyed this. The color may be described as being a blackish-green; the odor is well-marked, resembling anise; in consistence it is softer than English bees'-wax, and more tenacious. The second specimen was clarified before it was brought to this country, having been melted with water and strained; the removal of some sand has been the chief result. As the first specimen has only been in my hands for a week, I am unable to speak definitely as to its chemistry. However, a few experiments upon the proportion taken up by various solvents, as alcohol, ether, etc., suffice to

*Pharm. Journ. July, 1868.

show that it is quite distinct from the product of *Apis mellifica*. I hope to give the results of a chemical investigation to a future meeting of the Conference.—*Lond. Pharm. Journ.*, *Oct.*, 1868.

COMMERCIAL ACONITINE.

To the Editor of the Pharmaceutical Journal.

SIR,—We beg to hand you a translation of a paper on aconitine, received from Mr. Merck, of Darmstadt. It refers to a sample which we had sent to Mr. Merck, and which we had received from a first-class house here. The extraordinarily low price at which this preparation is being sold lately in London induced us to have it examined, and we doubt not that the result will prove of interest to your readers.

We remain, Sir, your most obedient servants,

ROLLER & WIDENMANN.

3, *Love Lane, Eastcheap, London, Sept.* 7, 1868.

The sample of aconitine received from London differs as against my preparation, *id est* the officinal aconitine, in the following points:—The pure officinal aconitine is readily soluble in ether, alcohol, and chloroform, and from these solutions it is obtainable only in an amorphous resinous mass, but by no means in crystalline form. In boiling water it becomes soft, and can be kneaded. Its reaction is decidedly alkaline.

The English aconitine, on the other hand, is but *slightly soluble in ether*, and also much less soluble in alcohol than the pure aconitine; from its solution in boiling alcohol it crystallizes readily on cooling. It is also difficultly soluble in chloroform, and in boiling water it does not become soft, but remains in a pulverulent condition. Its reaction is less alkaline.

If the aconitine in question be prepared from aconite root (which there is no cause to doubt), it is probably identical with aconelline or napelline, since both these bodies are found in the aconite root, and they are very similar in properties to the sample in question. On no account, however, can the latter be accepted as pure aconitine.

According to experiments made at Paris with the various aconitines of commerce, the crystalline body is far less active then the amorphous aconitine.—*Pharm. Journ.*, Oct., 1868.

List of the Contributors to the Building Fund for the New Hall of the Philadelphia College of Pharmacy. (*Continued from Page* 466.)

Henry A. Bower,	$ 25 00	A. H. Duval,	$5 00
T. J. Brown,	5 00	Jos. J. Dugan,	5 00
Cash,	5 00	Wm. H. Hickman,	5 00
H. A. Vogelbach,	10 00	J. M. Thomas,	5 00
Caleb H. Needles,	50 00	Ambrose Smith,	25 00
A. M. Wilson,	5 00	Geo. W. Stoeckel, Pittsburg,	10 00
Henry Thayer & Co., N.Y.,	125 00	J. T. Hufnal,	10 00
Frederick Brown,	200 00	S. J. Jones,	25 00
Robert Shoemaker,	200 00		
Bullock & Crenshaw,	200 00	Since Sept. 1,	$1010 00
Charles Shivers,	50 00	Previously,	5271 50
J. L. Bispham,	25 00		
J. S. Everton,	10 00	Total contributions,	$6281 50
Wm. Macpherson,	10 00		

Minutes of the Philadelphia College of Pharmacy.

The Semi-Annual Meeting of the Philadelphia College of Pharmacy was held at the College Hall, No. 145 north 10th street, on Monday evening, September 28, 1868. Twenty-three members present. In the absence of the President, the first Vice-President, Dillwyn Parrish, presided.

The minutes of the Annual Meeting were read and approved.

The minutes of the Board of Trustees were read by the Secretary of the College.

The Committee appointed to make arrangements for the session of the American Pharmaceutical Association, made the following report, which was accepted:

"The Committee appointed by this College at the Annual Meeting in March last, to make arrangements for the 16th session of the American Pharmaceutical Association, which convened in this city on the 8th day of the present month,

Respectfully report,—That notwithstanding the obstacles to the progress of the College building, occasioned by the continued wet weather after breaking the ground and the excessive heat of midsummer, the contractor pushed forward the building with commendable zeal, and your Committee were enabled to carry into effect the resolution of the College, offering the new building for the sessions of the Association.

One of the prominent features of the arrangements made by the Committee was an exhibition of chemical and pharmaceutical products, together with apparatus and implements of new or improved device. The exhibition was very successful, and reflected great credit on all the depositors, evidencing in a pleasing manner that our city still maintained her prestige for skilled labor in the manufacturing arts.

Your Committee made arrangements for the entertainment of the mem-

bers of the Association during the intervals of the sessions—and herewith present a printed programme of the same—all of which they believe was acceptable to the members of the Association.

A Guide Book of the City of Philadelphia was compiled by Prof. Parrish, and neatly printed, covering 64 pages; a copy of the book was presented to each stranger present at the meeting.

At the *conversazione* held in the College Hall on the evening of the eighth, the Committee thought proper to present publicly to the Chairman of the Building Committee, Thomas S. Wiegand, a testimonial evidencing the appreciation of the members of the College of his zeal and indefatigable exertions in having the building sufficiently advanced for the meeting of the Association. The presentation was made in behalf of the members of the College by our first Vice-President, Dillwyn Parrish.

Your Committee added to their number their fellow member Wm. C. Bakes, and to his happy conception, well schooled taste in arrangement, and untiring energy they attribute the major part of the success which has attended the arrangements. The amount of actual labor performed by Mr. Bakes is perhaps only appreciated by your Committee, and they can not refrain from expressing their sense of services so cheerfully given.

In conclusion, your Committee return thanks to all the contributors to the fund, which has enabled them to meet the expenses attending the reception and entertainment of their guests.

A. B. Taylor,
James T. Shinn,
Chas. Bullock,
Edward Parrish,
William Procter, Jr.,
Committee."

Prof. Robert Bridges, M. D., on behalf of the delegates to the American Pharmaceutical Association, made a verbal report.

Dillwyn Parrish, Chairman of the Committee on Ways and Means, reported the condition of the building fund as follows:

Cash received from sale of Premises on Filbert St.	$15.000 00
" " " collections for the fund,	5.496 50
" interest,	69 96
	$20.566 46
Cash paid on orders from Chairman of Building Committee,	18.103 00
Balance subject to order,	$2.463 46

T. S. Wiegand, Chairman of the Building Committee, reported on the progress of the building. After the contract had been signed, the city Surveyor required an increased thickness of the walls of the first story, and as the building progressed, several additional items of expense, not

included in the contract, were incurred from causes expedient or necessary. These, together with the cost of furnace for warming the building, and gas fixtures, it was thought would require from $8000 to $10,000 more money than has been collected. Of this amount, about $1500 subscribed was yet uncollected. The members of the College were exhorted by the Chair to renewed exertion in collecting funds promptly to enable the Building Committee to complete their task without the legacy of a debt upon the College.

The recommendation from the Board of Trustees for the transfer of certain funds of the College by the Treasurer, was concurred in.

John Bley having been recommended by the Board of Trustees for resident membership, an election was ordered; Ambrose Smith and Daniel S. Jones, acting as tellers, reported his unanimous election.

The semi-annual election being ordered, the tellers reported the election for Trustees of Wilson H. Pile, M.D., Edward Parrish, Alfred B. Taylor, Evan T. Ellis, William C. Bakes, William J. Jenks, Henry N. Rittenhouse, Charles Shivers.

Committee on Deceased Members.—Edward Parrish, William Procter, Jr., Charles Bullock.

CHARLES BULLOCK, *Secretary.*

Editorial Department.

THE SIXTEENTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION commenced and concluded its seven sittings during the second week of September last, in accordance with the announcement in our last number, and at the place then specified. At the last moment it was determined, wisely, not to plaster the large lecture room before the meeting, as it would have been impossible to have made it sufficiently dry to be safe to health. Abundant seats were provided, and sufficient table room to accommodate the officers and reporters.

We give a pretty full report of the minutes, having, as usual, had permission from the Secretary to avail ourselves of his rough notes, and the reports of committees. The meeting was well attended, about 130 having recorded their names, and a number omitted this duty. The list of new members admitted at this meeting was 75, so that the roll at present is about 800 members.

Of the reports, that on the Progress of Pharmacy, by Mr. Diehl, and that on the Drug Market, by Mr. Robbins, were particularly noticeable. The statistical tables of the latter report have been prepared with great care, and when the Proceedings are published it will be seen just what relation drugs sustain in the tariff for revenue, and what a disproportionate tax they bear compared with most other commodities.

The report of Prof. Maisch on the Legal Aspects of Pharmacy will exhibit the present condition of laws bearing on our profession, and show how much unity of action among the several State Legislatures is needed to effect reform.

The Association (at page 498) expresses its views on the mooted subject of the renewal of physicians' prescriptions, and, we think, wisely. The number of queries answered was about as usual, 18 in all, whilst 8 original volunteer papers were read or presented. Some of these possess great interest, and we hope in future numbers to avail ourselves of them when the Proceedings are printed.

A new feature of the meeting of last year was the Exhibition. The Committee of Arrangements appointed by our College early determined to follow that example, and, availing themselves of their powers, they were so fortunate as to secure the eminently valuable services of their fellow-member, William C. Bakes, by adding his name to the Committee. To the untiring energy, enthusiasm, and perseverance of Mr. Bakes, more than to any other cause, is due the very creditable and extensive display of chemicals, pharmaceuticals, and objects of interest, including apparatus, and living perennial plants illustrative of the materia medica, which the rooms presented. The latter were chiefly from the conservatories of Prof. George B. Wood and Mr. Joshua Longstreth, who kindly aided the efforts in this way. We hope to be able to say something about the articles exhibited.

On the evening of Tuesday, the 8th of September, the visiting members and their ladies were invited to meet the members of the College and their friends at the Exhibition Hall, which afforded ample room for the great purpose of the invitation,—viz., the social intercourse of the members of the Association. The display of the Exhibition afforded abundant subjects for conversation, and all went on pleasantly in the Hall till, about 9½ o'clock, the caterer of the Committee gave due notice that the company were needed to perform certain practical operations in the adjoining library room, where a table filled with the varied products of the gardeners', the bakers', and the confectioners' arts, was set for their use and enjoyment. All passed off pleasantly, and an excellent opportunity was afforded to mingle in a social way, introductory to the graver duties of the coming session. During the evening the occasion was taken by the members of the Committee of Ways and Means having in charge the general subject of the erection of the College Hall, to present a testimonial to Thomas S. Wiegand, for his indefatigable, intelligent and valuable labors in the performance of his duties as Chairman of the Building Committee. The testimonial, which consisted of a very beautiful ice pitcher and two goblets on a waiter, all of plate, was presented by Dillwyn Parrish, Chairman of the former committee, in a neatly turned speech, which was replied to by Mr. Wiegand.

On Friday, after the final adjournment of the meeting, the members were

invited by the druggists and pharmaceutists of Philadelphia to an excursion on the Delaware in the steamer Twilight, embarking at 3½ P.M. The company, about 350 in number, consisted of the visiting members and their ladies, with the pharmaceutists and druggists of Philadelphia and their ladies. The steamer passed down the river to League Island, when an opportunity was afforded to view the fleet of iron clads anchored there, after which, entering the Schuylkill river, the boat passed up its winding course until opposite the once famous Bartram's Botanic Garden, the former residence of "the King's Botanist," during a large portion of the 18th century, and so well described in Bartram's Letters, published by Dr. Darlington. In sight of Gray's Ferry the steamer turned, and, retracing its course, passed the city front and proceeded up the Delaware about twenty miles to Bristol, when, without landing, the party returned to Philadelphia, having sailed about sixty miles. At intervals, a band of musicians added their influence in entertaining the company with sweet sounds. A substantial collation was provided, and served in the lower saloon. The disposition to commingle and enjoy socially the excursion was a pleasant feature of the occasion, and all passed off to general satisfaction. Towards the close of the trip a meeting was called, and some speeches were made, during which testimony was borne to the excellent management of Messrs. William C. Bakes, Alfred B. Taylor, and James T. Shinn, of the Committee of Arrangements, in connection with the entertainment of the guests of the College of Pharmacy.

Exhibition at the Meeting of the Association.—The Committee having in charge the arrangements for the exhibition, of which William C. Bakes was Chairman, decided to hold it in the main hall of the first story, and the adjacent room, to be used for the practical laboratory. The unfinished condition of the room rendered some decoration with bunting necessary, which, with the numerous pictures and other objects suitable for display on the walls, gave a finish to the *toute ensemble* quite creditable to the good taste of the management.

A suite of tables for the sides, and a main table for the centre of the room, amply accommodated the articles on exhibition, with space for the visitors to pass between. The display of fine chemicals and pharmaceutical preparations was very creditable, and articles in glass ware for pharmaceutical use abundant and excellent, including shop furniture, bottles, etc., and mineral water apparatus, both for draught and for generating and condensing the gas, etc. Our space is too small for even a full enumeration of the depositors, much less of the articles, but we give the most we can afford, presuming that Dr. Hoffman's report to the Association will enter more critically into the merits of the exhibition.

Powers & Weightman—Exhibited about 60 samples of Chemicals, among which were several alkaloids and organic salts of great beauty and large volume. One sample of Sulphate of Morphia was valued at $1500. There were also fine specimens of Codeia, Red and Calisaya Barks, Chloroform, and volatile oils.

Rosengarten & Sons.—An assortment of fine Chemicals, in their usual good style and quality.

Hance, Griffith & Co.—Exhibited Pharmaceutical Preparations, Fluid Extracts, Sugar-coated Pills, &c. Also a patent Percolator, originated by Mr. Hance.

Bullock & Crenshaw.—An extensive display of Sugar-coated Pills, and other preparations.

Kurlbaum & Son.—A display of Chemicals, among which were fine specimens of Calomel in crystals.

Arthur Burnham & Co.—Exhibited Tin Ware and Gas Furnaces, for druggists' use.

Charles Ellis, Son & Co.—Had a fine collection of pharmaceutical preparations, including a great variety of Fluid Extracts, Sugar-coated Pills, &c.

Thomas & Twining.—A large assortment of Fluid Extracts, Solid Extracts, &c.

New England Glass Co.—Made a handsome display of Druggists' Glassware.

Dr. Edward R. Squibb.—Two cases of Rhubarb, of fine quality.

R. H. Watson—Exhibited a choice collection of Sponges of all grades, also fine Essential Oils, Vanilla Beans, Musk, &c.

Prof. J. M. Maisch.—Samples of Fruit Essences.

J. C. Baker & Co.—Cod-liver Oil, and Solution of Citrrate of Magnesia.

Nolen & Sweeney.—Cod-liver Oil.

L. Martin & Co.—Made a fine display of Chemicals.

Henry Bower—Exhibited his pure Glycerin, and some massive crystals of Prussiate of Potassa; also an ornamental design, of the same material.

Mellor & Rittenhouse.—Pharmaceutical Preparations, such as Fluid Extracts, Syrups, Extracts, Plasters, &c. Also a Pulvometer, for measuring the quantity of the salt and acid in Seidlitz Powders, invented by Mr. Rittenhouse. This firm also exhibited an apparatus for filling bottles,—a very convenient arrangement.

Edward Parrish—Exhibited Chemical Food, Glycerole Hypophosphites, also various pharmaceutical preparations made by P. Squire, of London, and a variety of pharmaceutical apparatus,—stills, gas furnaces, suppository trays, &c.

H. Thayer & Co., N. Y.—A collection of Sugar-coated Pills.

Howell & Onderdonk, N. Y.—Ferrated Elixirs, Cordials, &c.

H. A. Tilge & Bro.—A case of Toilet requisites.

I. H. Raser, of Pottsville.—A collection of Botanical Drawings in water colors, very well executed.

R. & G A. Wright.—Alconated Glycerin Soap.

Van Haagen, McKeone & Co.—Made a large display of Fancy and Plain Toilet Soaps.

Savery & Co.—A general assortment of Iron Mortars, all sizes; also Evaporating Pans, Steam Evaporators, and other arrangements for the Pharmaceutical Laboratory.

H. Trœmner—Exhibited fine Prescription Scales, and beautiful styles of Hoffman's Balances.

J. B. Moore—Made an exhibition of Suppositories, containing various medicinal ingredients.

W. F. Fry & Co., N. Y.—Self-cupping Glasses, a new Breast Pump, and papier mache covered Pocket Flasks.

Tourtelot Bros., Chicago.—Samples of their Condensed Beef and Beef Biscuit.

Wyeth & Bro.—Exhibited, for the manufacturers, an ingenious arrangement for making Suppositories without the aid of heat; also copies of Dr. Hartshorne's Guide to the Medicine Chest, published by them.

Snowden & Bro.—A case of fine Surgical Instruments.

Jas. T. Shinn.—Liquid Rennet and Opal Dentallina.

Moss & Bruckner.—A case of rare chemical products, and glass Liebig's Condensers for small operations.

W. R. Warner & Co.—A display of Sugar-coated Pills, in great variety.

W. Hodgson.—Inks of various kinds.

Thigeod & Son.—Saddle Bags and Medicine Chests.

Gilbert (*8th and Sansom*).—A fine display of Family Medicine Chests, in Mahogany and Leather.

Chas. Shivers.—Belladonna, Opium and Aconite Plasters, spread like Adhesive Plasters; also Isinglass and Court Plaster.

John Matthews, N. Y.—An elegant Soda Water Castor, combining many improvements over those in general use. The Syrup Cans are of glass, and so conveniently arranged that the syrup cannot drop over the counter. The opening is so arranged that only enough syrup for a single glass can pass through at one time. The cooling surface is also ingeniously constructed. He also exhibited a very complete Apparatus for making Soda Water, a Glass-lined Fountain, and his patent Soda Water Bottles, which supersede the use of corks.

T. Morris Perot & Co.—Had on exhibition a Soda Water Draught Apparatus and Generator, made by Morse, of Boston.

Whitall, Tatum & Co.—Exhibited an assortment of Green and German Flint Glassware.

Geo. W. Stoeckel, Pittsburg.—Graduated Vials and Bottles, of all sizes.

B. H. Sleeper & Co.—A section of Shelving, with Drawers; also Bottles with various forms of Glass labels, and a line of Druggists' Sundries.

W. H. Pile.—Hydrometers, Urinometers, &c.

A. H. Lawrence & Co.—Excelsior Spring Water.

Hindermayer.—Soda Water Draught Apparatus and Generator.

Thos. Perrins—Exhibited Aquariums in various forms.

THE NEW COLLEGE HALL. THE BUILDING COMMITTEE. THE FUNDS.—We have chronicled the progress of the College building with the greater interest, as for the time during which it was in course of erection our Institution was without a local habitation, and our ability to accommodate the National Association, and the coming courses of instruction depended on its partial and final completion. At this writing the plaster-ing is finished, and the lower Hall and the two larger lecture rooms are nearly finished. On the 7th of October Prof. Parrish inaugurated the hall by a general introductory to the lectures in the upper room, at which several hundred persons were present. The address was a historical account of the College, and will be published. By the first of December it is to be hoped the building will be handed over to the College by the Committee and Contractor, so that our Standing Committees on the Museum and Library may have the opportunity to restore these important influences to their new positions in the lower hall, where the members can again get at them. It is not our purpose now to give a description of the building

and its interior accommodations, which we hope to do in our next issue, but mainly to call the attention of the Pharmaceutists and Druggists of Philadelphia to the fact that the Institution which has so long and faithfully represented them, has a new and commodious Hall, capable of accommodating a large number of students in its School of Pharmacy, and of affording an excellent and central meeting room and accommodations for its members. Every pharmaceutist who has any ambition in, and for, his profession should be a member of this institution, as well to join hands in the advancement of our fraternity as a body, as to derive personal advantages from association with fellow members. In union there is strength, in unity of action a vast multiplication of force. What has been a tedious and laborious undertaking for a few individuals would become an easy and influential work for the united body of the Pharmaceutists of Philadelphia. The opportunity is now offered to join in and aid the College in getting its Hall completed. The Building Committee need several thousands of dollars to finish the building and furnish it, and they appeal to all who are directly interested in Pharmacy, as well as to all others who may desire to advance the efforts of a useful and valuable institution, to contribute what they can to the building fund of the College Committee, of which Dillwyn Parrish, 1017 Cherry Street, is the Treasurer. The funds already raised have been contributed by one-third of the Pharmaceutists of this city, the other two-thirds having as yet given nothing. We earnestly hope that all who are able will give, whether it be little or much, and aid in the completion and furnishing of the Hall.

The British Pharmaceutical Conference.—This body met in August, and its proceedings have been published in the September and October numbers of the Pharmaceutical Journal, both of which have been received. The address of President Hanbury appears to have given universal satisfaction. It commences with a general view of other associations of like character, and more especially of that in the United States, noticing the proceedings of 1867. It then reviews the developments that have occurred in England since the previous meeting, alluding to the labors of Guy, Waddington, Stoddart, Dean and Brady, Attfield, Harley and Umney. A well deserved tribute of praise is given to Dr. Flückiger, of Bern, for his contributions to science, and the remainder of the address is devoted to the efforts made and now making in the culture of cinchona, columbo, ipecacuanha and jalap. In regard to the two latter, Mr. Hanbury says, in regard to their British colonial culture, "of these the most important seems to me to be ipecacuanha, plants of which are now growing at Calcutta and Madras, as well as in the West India Islands of Trinidad, but in none of these localities does the plant prosper vigorously. In fact, the experiment looks as little hopeful as the cinchona enterprise did when the first bark trees were sent to India by Dr. Royle; and until we get a supply of good seed from Brazil I do not anticipate that it will be

possible to make a fair trial of propagating the ipecacuanha plant in India or elsewhere."

"The experiments made in cultivating the jalap plant (*Exogonium purga*, Benth.), are much more hopeful, and I have the gratification of presenting to your notice the first specimen of that drug produced in India. It was grown at Ootacamund, where live roots, carried from England by my friend Mr. Broughton, were planted in January, 1867. These roots grew with surprising luxuriance, each producing a fine cluster of tubers. Some of them were dug up in December of the same year, when the largest tuber was found to weigh over a pound and a half. This jalap of India, you will observe, differs very notably in appearance from what we get from Mexico, owing chiefly to a different mode of drying; in fact to facilitate this operation the tubers have been sliced. It compares, however, favorably with that of Mexico as regards percentage of resin, and from a few trials made in India we may judge that its medicinal powers are fully maintained."

The general results of the conference appear to have been quite successful. A number of excellent papers were produced, several of which have transferred to this number. A new feature is the contribution of papers from foreign sources, two such appearing in the proceedings from Dr. Flückiger, of Switzerland, one of which, on opium, may be seen at page 524. The membership of the Conference now numbers over 550, the meeting forms a common ground on which all classes of pharmaceutists may meet, and its harmonizing influence is even now being realized. At the third sitting, a proposition for the election of foreign members was decided on affirmatively, it having previously been understood that the number should be limited to twenty. For the present, seven only were proposed, viz., Prof. P. W. Bedford, of New York, Mr. Augustus Ambroise Delondre, of Sèvres, France, Mr. Albert E. Ebert, of Chicago, Dr. J. B. Edwards, Ph.D. and F.C.S., of Montreal, Canada, Dr. F. A. Flückiger, of Bern, Switzerland, Prof. Edward Parrish, of Philadelphia, and William Procter, Jr., of Philadelphia, and after a ballot was taken the President announced their due election.

At the fourth sitting it was decided to hold the next meeting at Exeter. The following officers were elected for the year 1868–9:

D. Hanbury, of London, *President;* H. Deane and Prof. Bentley, of London, *Vice-Presidents as Ex-Presidents;* W. W. Stoddart, of Bristol, J. Ince, London, G. Cooper, Exeter, H. S. Evans, London, *Vice-Presidents;* H. B. Brady, New Castle, *Treasurer;* Prof. Attfield, London, R. Reynolds Leeds, *General Secretaries;* Matthew Husband, Exeter, *Local Secretary.*

There was also an exhibition held in connection with the meeting which embraced many interesting specimens in materia medica, chemicals and apparatus.

Massachusetts College of Pharmacy.—From the *Boston Advertiser* of October 9th, we learn that

"The regular monthly meeting of the trustees of this institution was held on Wednesday afternoon at the rooms of the college, 12 Temple place, Mr. S. M. Colcord, chairman, presiding. After the reading of the minutes of the last meeting, Mr. J. H. Hubbard of Cambridge was elected a member of the college.

Mr. H. W. Lincoln, in behalf of the delegates to the late meeting of the American Pharmaceutical Association held in Philadelphia, read a very interesting report of that meeting.

Mr G. F. H. Markoe reported for the lecture committee that the school of pharmacy would begin its second session, 1868–69, on Friday evening the 16th inst., and that the laboratory of Mr. James F. Babcock, 8 Boylston street, had been secured for the lectures, and ample accommodations obtained for the class in analytical chemistry. Mr. Markoe called attention to the necessity of providing a diploma for the graduates of the college. The following gentlemen, nominated by the chairman, were appointed a committee to procure a diploma and arrange all matters relating to the graduating ceremonies: Thomas Hollis, H. W. Lincoln, Ashel Boyden, J. S. Melvin, G. F. H. Markoe.

On motion of Mr. Lincoln the meeting then proceeded to ballot for the Faculty of the School of Pharmacy. The following gentlemen were elected:—

Professor of General and Analytical Chemistry, E. L. Stoddard, Ph.D.
Professor of Materia Medica and Botany, Cyrus M. Tracy.
Professor of the Theory and Practice of Pharmacy, George F. H. Markoe.

There being no further business the meeting adjourned."

Our Boston friends are evidently in good earnest and are on the right track. They will have tuition this winter in qualitative analysis for advanced students, and eventually will build up their school on a permanent and solid foundation. They expect to grant diplomas, but only such students as may have served their time in *dispensing stores* will be entitled to the degree of Graduate in Pharmacy. Clerks from wholesale druggists will receive a certificate of proficiency, and *will not be examined* in extemporaneous pharmacy." They give "the reason for this distinction is that the art of dispensing medicine can only be properly learned by long practice at the dispensing counter; Lectures, be they never so good, are only valuable aids to practical instruction." We wish them success, and heartily approve of their mode of beginning.

The Pharmacist.—Chicago, Sept., 1868, Vol. 1, No. 1; pp. 20, quarterly. Published by the Chicago College of Pharmacy. E. H. Sargent, editor.

The first number of this new journal, announced in our last, has been received, and in all respects has come up to our anticipations. It consists almost wholly of original papers, of the character of which our readers may judge, as we have transferred several of them to this number. The tone of the editorial is excellent, and we hail its publication as a useful addition to the periodical literature of American Pharmacy. Though

commencing as a quarterly, the Editor promises soon to make its issue monthly and increase its number of pages, which, however, are very large, being royal octavo size. It is well printed on good paper, with a quadruple cover of advertisements.

The Canadian Pharmaceutical Journal.—Toronto, Ontario, August, 1868, vol. 1, No. 4 and 5 ; pp. 16, quarto. Published monthly.

We have not seen the first three numbers of this journal. It appears to be issued under the auspices of a committee of the Canadian Pharmaceutical Society. Advertising is a prominent object of the journal, and the first and last pages have two-thirds of their space devoted to advertisements, the articles are generally brief and practical. We learn from page 54 that the regular meetings of the Society occur monthly, when, after the transaction of business, a paper is read. The society numbers at present 200 members, who consist of principals, assistants and apprentices. The former class paying $4 per annum, and the two latter $2, as the annual fee. The Journal is one of the perquisites of members, and is well printed. The annual subscription is a dollar.

The Physician and Pharmaceutist.—New York, August, 1868 ; vol. 1, No. 1 ; pp. 16, quarto. August, 1868, quarterly. Published by Reed, Carnick & Andrus, Manufacturing Chemists and Pharmaceutists, New York.

The success of the *Druggists Circular* and some other publications which make advertising a prominent feature, seems to have induced various other parties to enter on the same line, an instance of which is the paper above noted. The parties issuing it promise to make their journal full of interest.

Half Yearly Compendium of Medical Science. Part I. January, 1868. Edited by S. W. Butler, M. D., and D. G. Brinton, M. D

The reception of this number is acknowledged ; the work was noticed in the last issue in alluding to the second number. Price $3 per annum.

The Druggists' General Receipt Book ; comprising a copious veterinary formulary ; numerous receipts in patent and proprietary medicines, druggists' nostrums, perfumery and cosmetics ; beverages, diabetic articles and condiments ; trade chemicals, scientific processes and an appendix of useful tables. By Henry Beasley. Sixth American, from the last London edition. Philadelphia, Lindsay & Blakiston. 1868 ; pp. 495, octavo.

From the publishers.

Erratum.—At pages 491 and 508, for *William H.* Fuller, Local Secretary, read Henry W. Fuller. Our readers will please make the correction.

OBITUARY.

Christian F. Schönbein, whose death at Baden-Baden, on September 4th, was announced in yesterday's Ledger, was born in Wurtemburg on October 18, 1799. At an early age he devoted himself to scientific pursuits, but being limited in his means, was obliged to teach, in order to complete his education. In 1828, he was appointed professor in the University of Basle, in Switzerland, and became famous in a few years for the boldness and originality of his generalisations; although inferior to several cotemporaries, as an experimenter, it is stated that he has, perhaps, never had a superior as a theorist.

In 1839 Schönbein made his great discovery of ozone, the form of which oxygen assumes under severe electric discharges, and which gives to the air the peculiar odor which prevails after a stroke of lightning. Twenty years later, in 1859, he discovered "Antozone," another form of oxygen, which, however, is as yet known only in such compounds as the peroxyds of sodium and potassium. These results are believed to be as remarkable as almost any in modern chemistry. In 1845 Schönbein invented gun-cotton, the value of which as blasting material is well known to the public. At first it was supposed that the whole system of military warfare would be changed by the discovery of this new agent, but its explosive qualities were found to be uncontrollable in the field. In 1851, a more pacific use was discovered for gun-cotton. Collodion, a solution of gun-cotton in ether, discovered by Maynard of Boston, is found to be the best material to be sensitized for photographic purposes. Schönbein was the author of several treatises on iron and its combinations with oxygen, on physical chemistry, on combustion and on the results of his own discoveries.

Prof. Jean Francis Persoz, of the *Conservatoire des Arts et Metiers*, eminent as a technological chemist and a member of the "Conseil d'Hygiene et de Salubrité de Paris," died at Paris on the 12th of September. Persoz was particularly well versed in the chemistry of dyeing, and held a public function in connection with that art. We hope to have a more extended notice.

Henry F. Fish, one of the original members of the American Pharmaceutical Association, and at one time the Mayor of Waterbury, Connecticut, died in New York in August last. Mr. Fish suffered much during the latter years of his life from a serious disturbance of his digestive organs, often accompanied with severe pain and depression. He wrote several papers for the proceedings of the Association, among which we recollect those on powdered camphor, on conium seed and on coca, the latter rather a compilation.

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